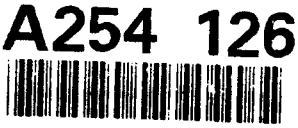

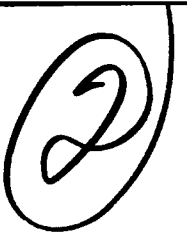

What To Do, What To Do? Determining a Course of Action at the Operational Level of War.

A Monograph
by

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School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

Second Term AY 91–92

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704 '88

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	18/05/92	MONOGRAPH

4. TITLE AND SUBTITLE
WHAT TO DO, WHAT TO DO? {DETERMINING A COURSE OF ACTION ~~SELECTION~~ AT THE OPERATIONAL LEVEL OF WAR.

5. FUNDING NUMBERS

6. AUTHOR(S)
MAJOR PATRICK A. STALLINGS

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
SCHOOL OF ADVANCED MILITARY STUDIES
ATTN: ATZL-SWV
FORT LEAVENWORTH, KS 66027-6900
COM (913) 684-3437 AUTOVON 552-3437

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

SEE ATTACHED

14. SUBJECT TERMS		15. NUMBER OF PAGES
OPERATIONAL DECISION-MAKING	SYSTEMATIC ANALYSIS	115
COURSE OF ACTION SELECTION	MISSION ANALYSIS	16. PRICE CODE
	STAFF ESTIMATES	

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNLIMITED

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18
298-102

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SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

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Title of Monograph: WHAT TO DO, WHAT TO DO? Determining a Course of Action at the Operational Level of War.

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Accepted this 22nd day of May 1991

ABSTRACT

WHAT TO DO, WHAT TO DO? DETERMINING A COURSE OF ACTION AT THE OPERATIONAL LEVEL OF WAR by Major Patrick A. Stallings, USA, 112 pages.

This monograph examines the adequacy of doctrinal decision-making procedures for the operational level of war. These doctrinal procedures are found in emerging joint doctrine. For these procedures to be adequate, they should: provide a rigorous organization of thought and action; create a common, joint approach to decision-making; save valuable planning time; and increase probability of success on the battlefield. The focus of research is on the actions taken from receipt or recognition of a mission to the commander's selection of a course of action.

To examine the question of whether an adequate process currently exists, I first briefly describe the tactical decision-making process, emphasizing its techniques for tying tactical concepts into a systematic analysis framework. I then survey both Army and Joint Staff manuals concerned with operational decision-making to determine if a process exists, and how that process compares to the tactical process relative to the adequacy criteria.

From these comparisons, I conclude that while a systematic analysis model for operational decision-making exists in emerging joint doctrine, the operational decision-making model does not adequately integrate operational concepts for consideration by staffs and commanders. I recommend a format based on the tactical process that provides changes and additions to the doctrinal process to account for these inadequacies.

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I. Introduction

Though the " . . . quality of a decision will always depend upon the decision maker's wisdom and experience, anyone can improve his own decision-making skills through the thoughtful use of systematic analysis. Intellectual self-discipline is required to avoid ignoring important alternatives, uncertainties, decisions, or trade-offs."[1]

During campaign planning exercises held at the School of Advanced Military Studies in December 1991 and March 1992, students wrestled with the complexities of decision-making at the operational level of war. The development and selection of an operational course of action, one that used tactical operations to achieve strategic aims[2], proved to be a difficult task. The lack of a doctrinal systematic analysis method that combined process with operational concepts exacerbated the difficulty.

The students ended up using a systematic analysis tool meant for tactical commanders. This tactical decision-making model, outlined in Field Manual 101-5 (FM 101-5) and expanded on in Student Text 100-9 (ST 100-9), assists commanders in arriving at sound decisions that translate "potential combat power" into success on the battlefield.[3] The generic military decision-making process upon which the tactical model is based was of great assistance in choosing a course of action.

But the principles and procedures in the tactical

process proved to be inadequate for the breadth and scope of operational art. The battlefield framework (close, deep, rear, security, reserve), analysis of OCOKA (Observation, Cover and concealment, Obstacles, Key terrain, and Avenues of approach), and mission analysis techniques, to name a few, were too narrow in focus for an operational decision-maker's needs. Additionally, joint doctrine describes various principles and concepts concerning the operational level of war that the tactical process does not. Consideration of centers of gravity, strategic aims, and political factors are all absent. Without an operational level process that provides for an organized approach to course of action selection, students wasted valuable time and risked failure on the exercise battlefield.

This is not to claim that use of an analytic decision model will guarantee victory. The nature of war is not conducive to guarantees.[4] The claim is that a structured approach to processing information and making choices can expand the limits of human rationality.[5] Where decisions involve the lives of soldiers and the future of nations, any edge or assistance is priceless.

For an analysis model to be adequate at providing an edge in military decision-making, it must meet the

following criteria:

- provide a rigorous organization of thought and action;
- create a common approach to decision-making;
- save valuable planning time; and
- increase probability of success on the battlefield.

To examine the question of whether an adequate process currently exists, I first briefly describe the tactical decision-making process, emphasizing its techniques for tying tactical concepts into a systematic analysis framework. I then survey both Army and Joint Staff manuals concerned with operational decision-making to determine if a process exists, and how that process compares to the tactical process relative to the adequacy criteria.

From these comparisons, I conclude that while a systematic analysis model for operational decision-making exists in emerging joint doctrine,[6] the operational decision-making model does not adequately integrate operational concepts for consideration by staffs and commanders. I recommend changes and additions to the doctrinal process to account for these inadequacies.

II. TACTICAL DECISION-MAKING

"Tactical operations are the conduct of battles and engagements within the context of campaigns and

major operations." Tactics differs from operational art in the scope of time and space used for planning and execution. Similarities include the need to anticipate the enemy, use clearly defined objectives and concepts, and conduct rapid decision-making.[7]

Staff officers and commanders use the tactical decision-making process to speed the selection of sound courses of action based on "thoroughness, clarity, judgement, logic, and professional knowledge."[8] Codification in doctrine ensures the widespread use of this process. As doctrine, the process is taught at most levels of tactical professional military education. The Army's Combat Training Centers also use the process as the standard to evaluate unit staff procedures.

Part of the advantage of the system is the ease with which it can be described in general terms in a single graphic. Figure 1 is the graphical diagram of the tactical decision-making process.[9] Four steps describe the entire process for course of action selection: mission analysis, course of action development, course of action analysis, and decision. The combination of FM 101-5 and ST 100-9 gives guidance for information gathering and analysis in the different stages of the process.

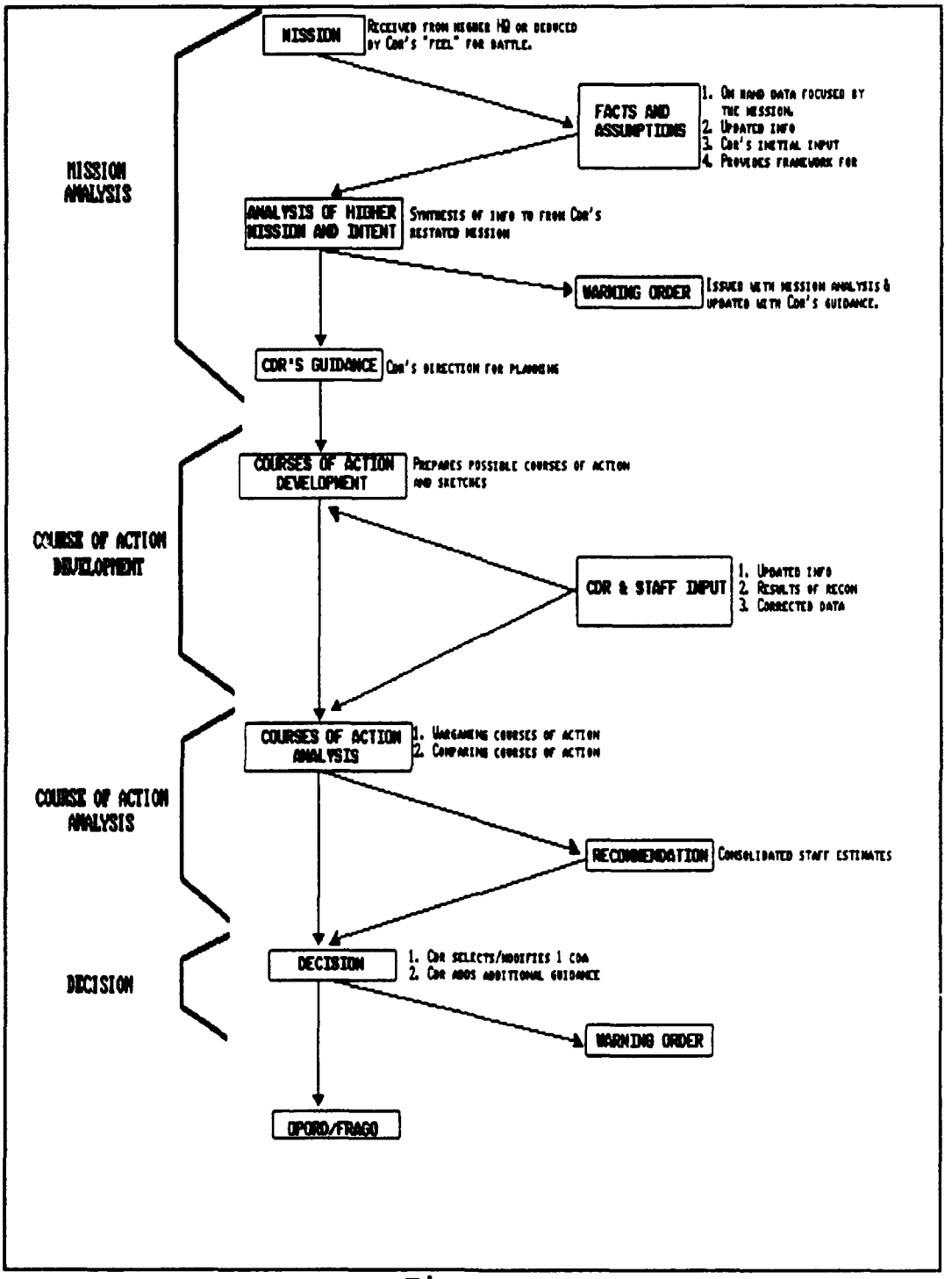

Figure 1

Mission analysis defines the parameters of the problem and updates the commander on the current and

projected situation. This process involves gathering facts, making assumptions, and analyzing the higher commander's intent. The product of this effort assists the commander in giving guidance to his planners for course of action development and analysis.[10]

All of the primary staff at the tactical level (operations, logistics, intelligence, personnel, and civil affairs) have a role in gathering facts and making assumptions. ST 100-9 focuses them on the detailed information required for decision-making by a tactical commander.[11]

This focus is expressed in the staff estimate outlines contained in FM 101-5. These estimates walk each staff officer through an orderly analysis of the mission, situation, and proposed courses of action based on their functional area. The estimates give each staff officer a guide for determining the information in his particular functional area which the commander needs to make his decision.[12]

The intelligence estimate's guidance for terrain analysis of the area of operations provides a good example of what each staff officer does in this first analysis step. The intelligence officer bases his terrain analysis on a detailed examination of the area in terms of the existing situation, effects on enemy courses of action, and effects on friendly courses of

action. The existing situation is described using the military aspects of terrain: observation and fields of fire; cover and concealment; obstacles; key terrain; and avenues of approach (OCOKA).[13] Ground and air avenues of approach are the most important information for the tactical commander.[14]

The next step in analyzing the higher commander's mission and intent involves all staff sections. Their focus is on "understanding the WHY of the mission"[15] and the HOW as envisaged by higher headquarters. To determine the "WHY", the staff must study the intent of commanders two levels higher. To determine the HOW, the staff lists tasks specified and implied in the higher command's order. This information assists in determining essential tasks required of the unit.[16]

With the information organized and presented by his staff, the commander issues a restated mission, his initial planning guidance, and his initial intent statement. This guidance focuses his staff on appropriate courses of action for development. Additionally, the guidance provides decision criteria for the staff to use as a part of their analysis. Some of the topics suggested for guidance are: usage of time, where risk is acceptable, type of reserve, and combat service support instructions.[17] FM 101-5 adds that "Airland Battle considerations such as deception,

intelligence preparation of [the] battlefield, electronic warfare, command and control, and deep, close, rear battle" may be included.[18] This is a further indication of the tactical focus the process gives planners and commanders.

After receiving the commander's guidance, the staff develops different approaches to accomplishing the mission. The operations staff has the lead in this phase. The operation planners develop alternative schemes of maneuver, fires concepts, and objectives, then submit them for feasibility analysis by the other staff sections.

The differences in these courses of action are only limited by the commander's guidance and any mission-related time constraints. The ideal goal is to present the commander with as full a range of options as possible. The realistic goal set forward by ST 100-9 is to develop "several feasible courses of action for every enemy course of action developed by the [intelligence officer]. . . ."[19] Due to time constraints, even this goal is difficult to achieve.

To streamline the process, ST 100-9 is very specific in its guidance on how to develop courses of action. The staff is expected to go through five steps:

1. Analyze relative force ratios.
2. Array initial forces.
3. Develop the scheme of maneuver.
4. Determine command and control means and maneuver control measures.
5. Prepare course of action statement(s) and sketch(es).[20]

ST 100-9 gives highly detailed guidance concerning techniques for accomplishing each of the steps. The ST contains specific examples of: techniques for developing force ratio calculations; how forces should be arrayed by a given level of command; the technique for developing a scheme of maneuver using the tactical battlefield framework (close operations, deep operations, rear battle, security operations, and reserve); and course of action sketches and statements.[21] This detailed guidance creates a common approach to this part of the process.

Upon developing feasible courses of action, the staff analyzes them to determine the best course for the commander to follow. As before, ST 100-9 outlines specific procedures for the staff sections to follow, using a technique called "war gaming."

"War gaming is a conscious attempt to visualize the flow of battle, given friendly strengths and dispositions, enemy assets and possible courses of action, and a set piece of ground."[22] During war gaming, the different staff sections come together and work through each of the courses of action, assessing

the utility of each by listing advantages and disadvantages, and making adjustments. The battlefield operating systems (maneuver, fire support, air defense, intelligence and electronic warfare, combat service support, command and control, and mobility, countermobility, survivability) guide the process. The war game process requires that the staff systematically examine unit actions in each of the battle operating systems from the start of the battle to its completion. The war game also enhances in-depth analysis of the course's adherence to tactical principles outlined in doctrine. Figure 2 is an example of a completed war gaming matrix.[23]

After completing the war game for each course of action, the different staff sections compare the disadvantages and advantages of each to determine the one best suited to meet the commander's intent and satisfy tactical principles. The form of this comparison can vary, but the technique recommended by ST 100-09 uses decision criteria derived from the commander's guidance and pertinent tactical principles. The staff compares each course of action against the criteria. They give each criteria a numerical value based on the course's related advantages and disadvantages.[24] The comparison of these relative numbers in a matrix provides the commander with a

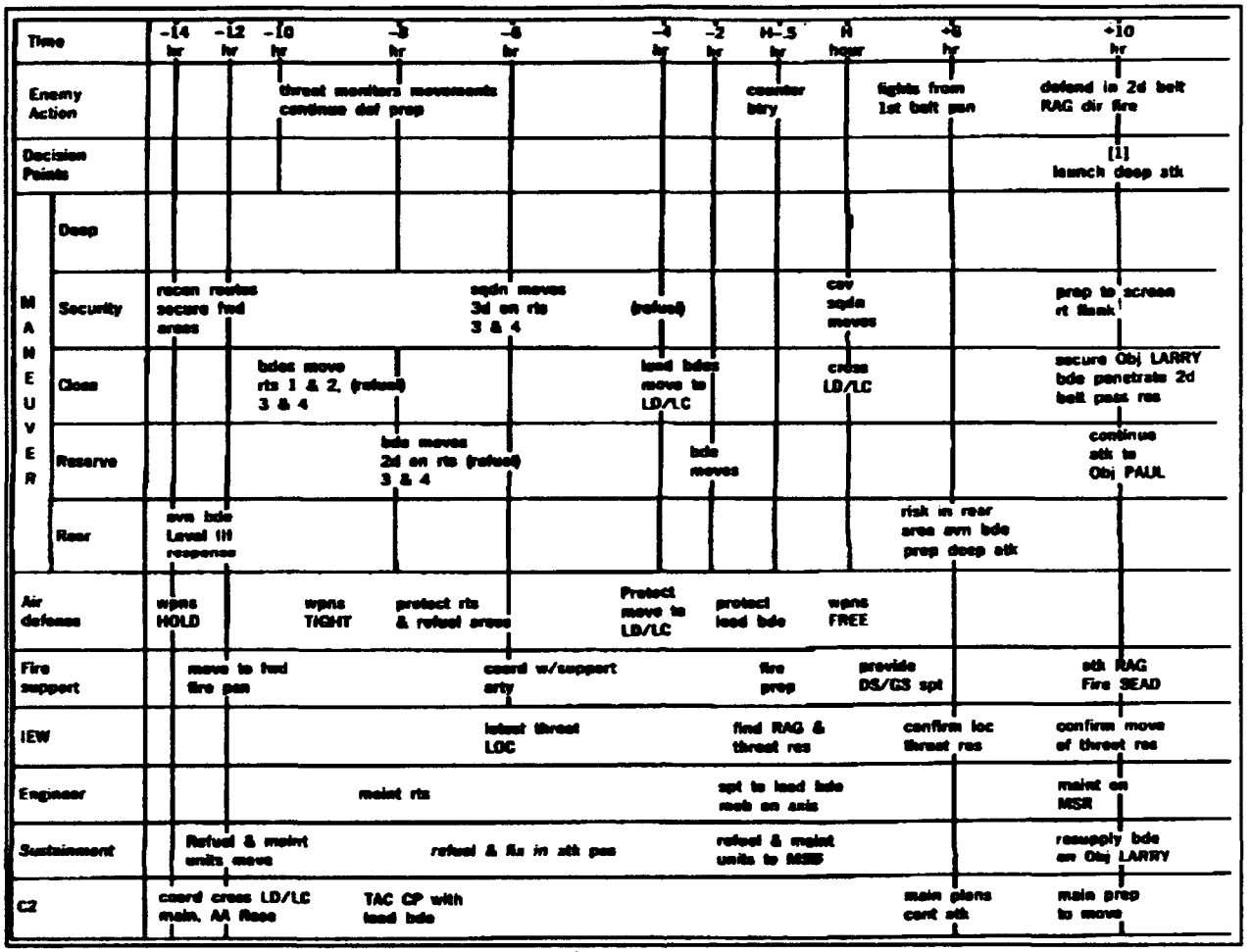

Figure 2

decision-making tool that summarizes the analysis of his planners.

In the next step the staff briefs the commander on the analysis process, describing the courses of action, their advantages and disadvantages, and each staff section's recommendation for the best course to follow. Given this information,

> the commander reaches a decision based on his experience, his trust and confidence in his staff, and his estimate of the situation. The commander may agree with the staff recommendation or he may select another course of action. The

> commander's selection of a course of action different from that recommended should not create much additional work since the requirements for each course of action should have been determined during war gaming.[25]

The staff takes the commander's chosen course of action and continues working to fully synchronize the actions of the unit. The final product is an operations order, whose basic concept is well-grounded in tactical principles.

This very detailed approach to tactical decision-making meets the criteria for an effective military decision-making tool. FM 101-5 and ST 100-9 set up a rigorous procedure that focuses the staff's thought process on tactical issues vital to decisions made at their level. This system has all of the advantages of an analytic approach to problem-solving. It identifies several options and then systematically evaluates (war games) and contrasts the options. It develops a wide range of options and is less dependent on the experience of the decision-maker than its counterpart--the recognitional process.[26]

Because the process is a part of doctrine, it is taught to planners throughout their career, used as the evaluation standard for staff planning procedures and tactical decision-making at the U.S. Army's Combat Training Centers, and practiced by unit staffs and commanders during their home station training, external

evaluations and command post exercises. This enforced familiarity and common understanding of the process helps avoid confusion on tactical planning staffs. All planners are familiar with their role in the staff interaction required to assist the commander in making a military decision. They are kept well-grounded in tactical principles that apply to the problem.

This familiarity not only creates a common focus; it also speeds the process up. The need to create ground rules for staff planning and organization is virtually eliminated. The process provides a guide for briefings and coordination meetings needed to facilitate staff interaction and decision-making. Basic tactical concepts are automatically reviewed, requiring less time spent identifying those concepts.

Additionally, the process has the advantage of being evolutionary. As the next version of FM 101-5 is being written, the refinements presented in ST 100-9 and identified by users such as the BCTP team are being blended into the new doctrine. To facilitate this, the author of ST 100-9 has been assigned the task of rewriting FM 101-5.[27]

All of these advantages increase the probability of success on the battlefield by insuring unity of effort on the staff, maintaining adherence with basic tactical principles during the process, and by creating

a better analyzed product in quicker time. Helping the decision-maker assess other alternatives, minimize the effect of uncertainties, and identify areas of risk are important tasks for planners.

Tactical decisions impact directly on military units and the soldiers in them. An ill-considered decision can result in a loss on the battlefield and the waste of people's lives. Operational decisions not only affect the fates of soldiers and units, they also affect the course of entire nations. The operational decision-maker needs a comparable process for analysis and selection of courses of action.

III. OPERATIONAL DECISION-MAKING

"Campaigns represent the art of linking battles and engagements in an operational design to accomplish strategic objectives."[28] Campaigns are inherently joint, and the campaign plan seeks to insure all operations on land, sea, air, under the sea, and in space are synchronized to bring maximum effect on the enemy. The plan is "based on the commander's concept [which] is the intellectual core of the campaign plan."[29]

That concept is the personal responsibility of the operational-level commander. He can develop the

concept on his own, using only his personal experience and assessment of the situation. The commander can choose a concept and have that concept analyzed and developed by his staff. Or, he can pursue an analytic process much like the tactical model and have various courses of action analyzed and assessed by his staff. How does doctrine recommend operational-level commanders decide on which course of action to pursue?

Given that campaign plans are "inherently joint", joint doctrine should provide the answer to the question. Joint Test Pub 5-0 is the doctrine for planning the employment of U.S. Armed Forces in joint operations.[30] According to this publication, combatant commanders typically do peacetime operational planning using a deliberate planning cycle. In times of war or crisis, operational planning is conducted by combatant commanders, subunified commanders, and joint task force commanders using crisis action procedures.

Joint Test Pub 5-0 describes four common principles that guide planning regardless of the context:

> a. Objective. Joint operation planning is directed toward clearly defined, attainable, and decisive objectives.
> b. Unity of Effort. Unity of effort in joint operation planning is achieved by (1) planning under unified direction, (2) establishing unity of command, (3) delineating clear planning responsibilities and relationships, and (4) establishing common doctrine and procedures for planning joint operations.

> c. Flexibility. Flexibility is necessary to overcome unforeseeable events, adapt to uncertainties, and adjust to the frictions of war.
> d. Timeliness. Joint operation planning must be responsive within the time available for planning . . . . Timeliness in planning joint operations is achieved through a disciplined planning process . . . .[31]

Just as these principles guide planning, joint doctrine requires that plans meet the criteria of: adequacy for the assigned tasks, feasibility of accomplishing the tasks with the resources available in the time-frame considered, acceptability in terms of losses and legality, and compliance with joint doctrine.[32]

Joint planning uses "traditional military problem-solving techniques" involving four steps: "identifying the mission; estimating the situation; developing plans; and implementing plans."[33] The system that incorporates these four steps into a decision-making process is called the Joint Operation Planning and Execution System (JOPES).

"JOPES is the principal system within the Department of Defense for translating policy decisions into operation plans and OPORDs . . ."[34] JOPES' main role is the integration of computer software support into the process, particularly focused on the plan development step. The first volume of JOPES, Planning Policies and Procedures, contains the staff procedural instructions that the computer software described in

the follow-on volumes will support. These procedures include the latest version of a decision-making model for the operational level of war. Figure 3 is a diagram of the JOPES operational functions (computer software families) aligned with the deliberate and crisis action planning process.[35]

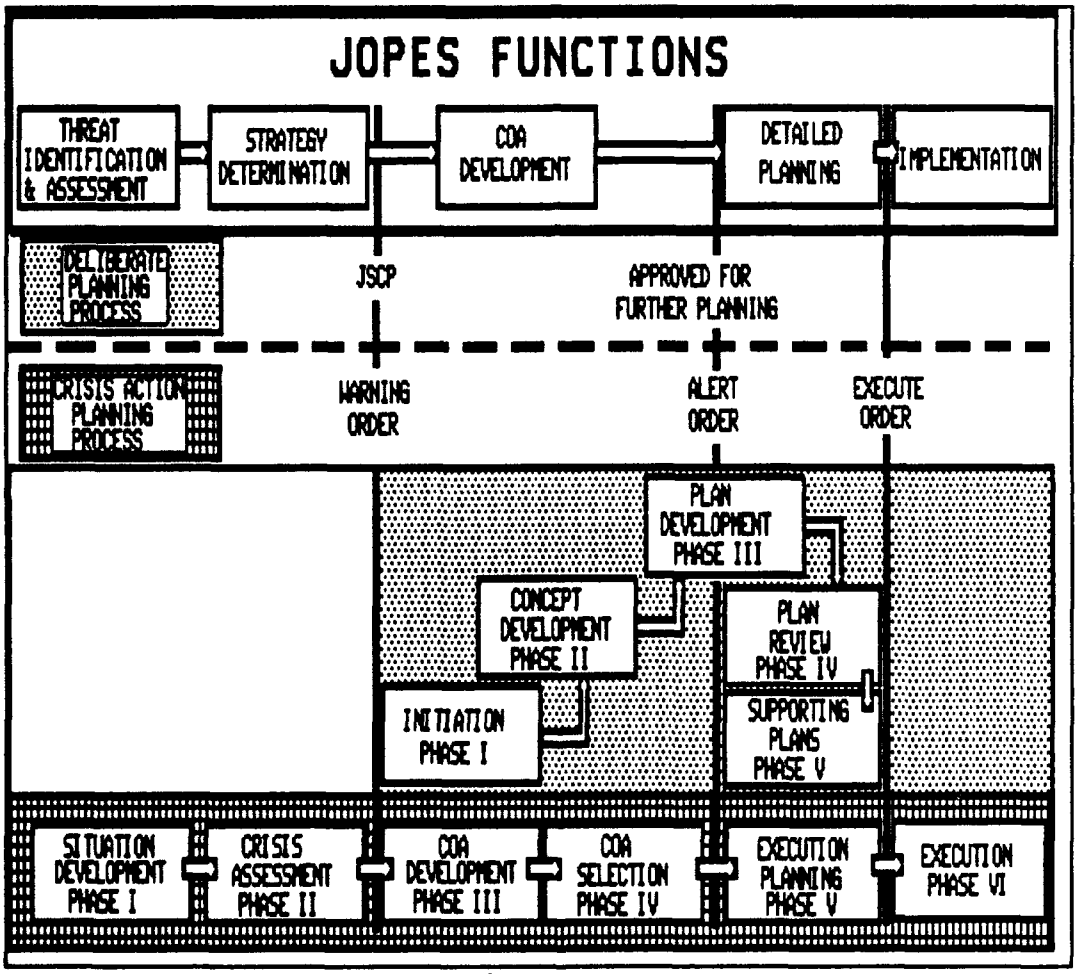

Figure 3

In the deliberate planning process, mission analysis and course of action development occur during the concept development phase. The steps in this

phase, which are analogous to the steps in the tactical process, are:

Step 1 -- Mission analysis.
Step 2 -- Planning guidance.
Step 3 -- Staff estimates.
Step 4 -- Commander's estimates.
Step 5 -- CINC's concept.
Step 6 -- CJCS concept review.[36]

In Joint Pub 5-03.1, mission analysis is briefly described as the analysis of tasks to provide planning guidance to the staff.[37] Joint Test Pub 5-0 gives a little more guidance, directing the staff to determine specified and implied tasks, define the "purpose to be achieved, and [identify] key factors that will influence operations."

Armed Forces Staff College (AFSC) Pub 1, the basic textbook for the joint duty preparation school and the joint analogue of ST 100-9, adds that the commander and staff must consider the forces available, "the capabilities of the enemy, the terrain, geographic features that support friendly and enemy forces, and [the] weather." "Controlling factors" which will influence military operations are also considered. These include such things as "diplomatic understandings, economic conditions, host nation issues, etc."[38]

The product of mission analysis is a mission statement.[39] AFSC Pub 1 describes the mission statement as a "clear, concise statement of the tasks

to be accomplished by the command and the purpose to be achieved." It does not usually include a unit's routine or inherent tasks.[40]

Joint Pub 5-03.1 describes the planning guidance step in more detail, with two major objectives enumerated:

> (a) Provide the supported commander's staff with enough preliminary guidance to allow work to begin on staff estimates. Representative information might include characteristics of the area of operations, enemy capabilities, the mission statement, assumptions, special weapons, political and psychological considerations, tentative COAs, and a planning schedule.
> (b) Make the above information available to the subordinate and supporting commanders and other interested parties.[41]

This information is intended to focus the staff on the issues of importance to the commander, and to prompt the development of tentative courses of action.

The operations planner (typically the J-5 in joint operations) develops the tentative courses of action based on information received in initial staff briefings from the intelligence, logistics and operations staff. The content of course of action statements includes the following:

- **what** military operations are considered,
- **where** they will be performed,
- **who** will be conducting the operation,
- **when** the operation is planned to occur, and,
- in very general terms, **how** the operation will be conducted.[42]

The planning directive includes the commander's

guidance and tentative courses of action (Appendix A).[43] The planning directive also includes the commander's guidance concerning the planning schedule. This is a schedule of dates, times and formats for the completion of staff estimates and exchange of information with supporting and subordinate commands.[44]

Detailed formats and guidance support the development of staff estimates, the next step in the process. Staff estimate formats include: personnel; intelligence; logistics; command, control and communications systems; operations security; and military deception (Appendix A).[45] These estimates provide a detailed outline for situation assessment focused at an appropriate level for operational planners.

For example, the intelligence estimate considers such pertinent issues as topography, telecommunications, transportation, politics and economics, and sociology as a part of the intelligence preparation of the theater. The intelligence staff analyzes enemy capabilities under the sub-categories of ground, air, naval, nuclear, chemical/biological, and joint.[46]

Staff estimates also direct the analysis and comparison of courses of action, but without much guidance about techniques or procedures for doing so. For example, the personnel estimate requires the

personnel officer to analyze personnel factors that would influence each course of action. The situation analysis conducted earlier in the personnel process determines these factors. But, the procedure for using these factors to analyze the course of action is left to the staff's imagination.

In the next step, the staff uses the commander's estimate format to obtain the commander's analysis and decision (Appendix A). This format summarizes the staff's analysis and compares the courses of action. The final paragraph is the commander's decision concerning the appropriate course of action to follow, with any necessary clarifications and additional guidance.

The approved course of action is forwarded for Joint Staff review. Once reviewed by the Joint Staff, the course of action is either put on the shelf as a contingency plan or further developed into an operations plan with supporting plans. Either way, the intent of deliberate planning is to create plans that facilitate the commander's reaction to crises that arise in his area of responsibility.

Crisis Action Planning (CAP) procedures build from plans developed by the deliberate planning process.[47] CAP is initiated by a crisis in some region of the world. CAP is used to develop orders for the

employment of joint forces. Figure 4 is a flow diagram from Joint Pub 5-03.1 that describes CAP.[48]

PHASE I SITUATION DEVELOPMENT	PHASE II CRISIS ASSESSMENT	PHASE III COURSE OF ACTION DEVELOPMENT	PHASE IV COURSE OF ACTION SELECTION	PHASE V EXECUTION PLANNING	PHASE VI EXECUTION
EVENT					
•EVENT OCCURS WITH POSSIBLE NATIONAL SECURITY IMPLICATIONS	•CINC'S REPORT/ ASSESSMENT RECEIVED	•CJCS PUBLISHES WARNING ORDER	•CJCS PRESENTS REFINED AND PRIORITIZED COA'S TO NCA	•CINC RECEIVES ALERT ORDER OR PLANNING ORDER	•NCA DECIDE TO EXECUTE OPORD
ACTION					
•MONITOR WORLD SITUATION •RECOGNIZE PROBLEM •SUBMIT CINC'S ASSESSMENT	•INCREASE AWARENESS •INCREASE REPORTING •JCS ASSESS SITUATION •JCS ADVISE ON POSSIBLE MILITARY ACTION •NCA-CJCS EVALUATION	•DEVELOP COA'S •EVALUATE COA'S •CREATE/MODIFY JDS DATABASE •CINC ASSIGNS TASKS TO SUBORDINATES BY EVALUATION REQUEST MESSAGE •CINC REVIEWS EVALUATION RESPONSE MESSAGES •USTRANSCOM PREPARES DEPLOYMENT ESTIMATES •JCS REVIEW COMMANDER'S ESTIMATE	•CJCS GIVES MILITARY ADVICE TO NCA •CJCS MAY PUBLISH PLANNING ORDER TO BEGIN EXECUTION PLANNING BEFORE FORMAL SELECTION OF COA BY NCA	•ADJUST JDS DATABASE •IDENTIFY MOVEMENT REQUIREMENTS •IDENTIFY AND ASSIGN TASKS TO UNITS •CONVERT COA INTO OPORD'S & SUPPORTING OPORD'S •RESOLVE SHORTFALLS & LIMITATIONS •BEGIN SORTS REPORTING •JCS MONITOR OPORD DEVELOPMENT	•CJCS PUBLISHES EXECUTE ORDER BY AUTHORITY & DIRECTION OF SECDEF •CINC EXECUTES OPORD •JDS DATABASE MAINTAINED •JPEC REPORTS EXECUTION STATUS
OUTCOME					
•ASSESS THAT EVENT MAY HAVE NATIONAL IMPLICATIONS •REPORT THE EVENT TO NCA/CJCS	•NCA/CJCS DECIDE TO DEVELOP MILITARY COA	•CINC PUBLISHES COMMANDER'S ESTIMATE WITH RECOMMENDED COA	•NCA SELECT COA •CJCS PUBLISHES COA SELECTION BY NCA IN ALERT ORDER	•CINC PUBLISHES OPORD	•CRISIS RESOLVED

Figure 4

The procedural steps for course of action selection reflect the deliberate process in all but

name. The joint command staff uses the same analysis procedures and formats described earlier to analyze the mission and develop the course of action. The same JOPES functions cover the technical side of course of action development.

But there are two key differences between the two planning processes. One difference is the emphasis on the fluidity of the process based on time constraints imposed by the crisis at hand.[49] Crisis planning is a flexible process which commanders can compress into a single conference that ends with the issuance of an execution order.[50] The deliberate process involves long-term, detailed planning based on assumptions. The crisis action process has simultaneous actions and planning to develop the situation and speed the reaction time of our forces.

Another major difference involves decision-making authority. In deliberate planning, the joint commander decides on the course of action to adopt for his concept, and his finished contingency plan is reviewed by the Chairman, Joint Chiefs of Staff for approval. At the end of the course of action development phase in crisis planning, the operational commander submits one or more courses of action for the Chairman to review. The Chairman then forwards these courses to the National Command Authority with advice and

recommendation. The National Command Authority decides on which course of action to pursue.[51] According to joint doctrine, the National Command Authority must approve the campaign plan concept before the combatant commander can execute it.

In conclusion, the JOPES decision-making framework described in "Joint Pub 5-03.1, Planning and Procedures" does provide an ordered approach to assessing the operational situation, but complete and rigorous analysis is absent. Details about techniques and procedures for analysis are dispersed in other sources such as AFSC Pub 1 or absent altogether. Where Joint Pub 5-03.1 uses one sentence to describe the product of the mission analysis phase as the mission statement, AFSC Pub 1 describes a logical sequence of task analysis to arrive at the mission, as well as the form the statement should take. Where Joint Pub 5-03.1 directs that staff planners analyze courses of action and compare them, no current joint manual describes techniques for conducting and coordinating analysis at the operational level.

The advantages gained by creating a common approach in the tactical decision-making process are nonexistent at the operational level due to the lack of detailed guidance. For recommendations on briefings and meetings that might coordinate and speed the

process, the planner must depend on his own headquarter's standard operating procedures or refer to the suggestions laid out in AFSC Pub 1. The planning directive's section on planning schedules may alleviate the problem, but it does not lend to the creation of consistent standard operating procedures across all supporting and subordinate commands.

Unlike the tactical process, where planners are presented a set of well-developed tactical concepts to build from, no common set of procedures ensures consideration of operational design concepts in operational decision-making. Operational concepts should be guideposts for the planner and decision-maker, helping them to keep focused on appropriate operational courses of action. These concepts are either ignored, inconsistently defined, or dispersed amongst current joint doctrine.

For example, center of gravity is not included in Joint Pub 1-02, the Department of Defense Dictionary of Military and Associated Terms. It is defined identically in JCS Pub 3-0 and JCS Pub 5-0, while it is mentioned in Joint Pub 1, but is not defined. Concepts like decisive points and operational objectives are not included in joint doctrine at all.

Without these concepts as an integral part of the process, the command must rely on the experience of the

planners and the commander. Experienced operational planners are not as prevalent as experienced tactical planners. Opportunities to gain operational experience are rare, and usually not available to planners until they have reached field grade rank and been fortunate enough to have been assigned to one of the relatively few joint planning positions available. The operational decision-making process must use techniques that require planners and commanders to refer to the experience of other planners and theorists before them, embodied in operational concepts.

The current process does increase the probability of success on the battlefield, if only because it gives the decision-maker an organized approach to assessment of the situation and some sort of analysis of the different courses of action. But the lack of detailed procedure and conceptual basis in some key areas means that the increase is not as great as that provided to the tactical commander by the tactical process.

The key is to improve the operational process and give the operational-level commander the same sort of advantages he came to expect as a tactical commander. Where in the operational course of action selection process would those improvements best be made?

IV. RECOMMENDED IMPROVEMENTS

To give the operational commander the same relative decision-making assistance as the tactical commander, three key improvements to the operational decision-making process are necessary:

1. The operational decision-making model must have clearly delineated and defined points for the exchange of information and guidance.

2. The operational decision-making model must have a rigorous mission analysis procedure to provide the operational decision-maker all of the information he requires to give good planning guidance to his staff.

3. The operational decision-making model must tie operational concepts into the course of action development and analysis process.

The diagram in Figure 5 describes a proposed decision-making process that incorporates these three improvements while alleviating the problems of structure and order in the current JOPES model. Operational concepts mentioned in the diagram and in the text are defined in Appendix B.

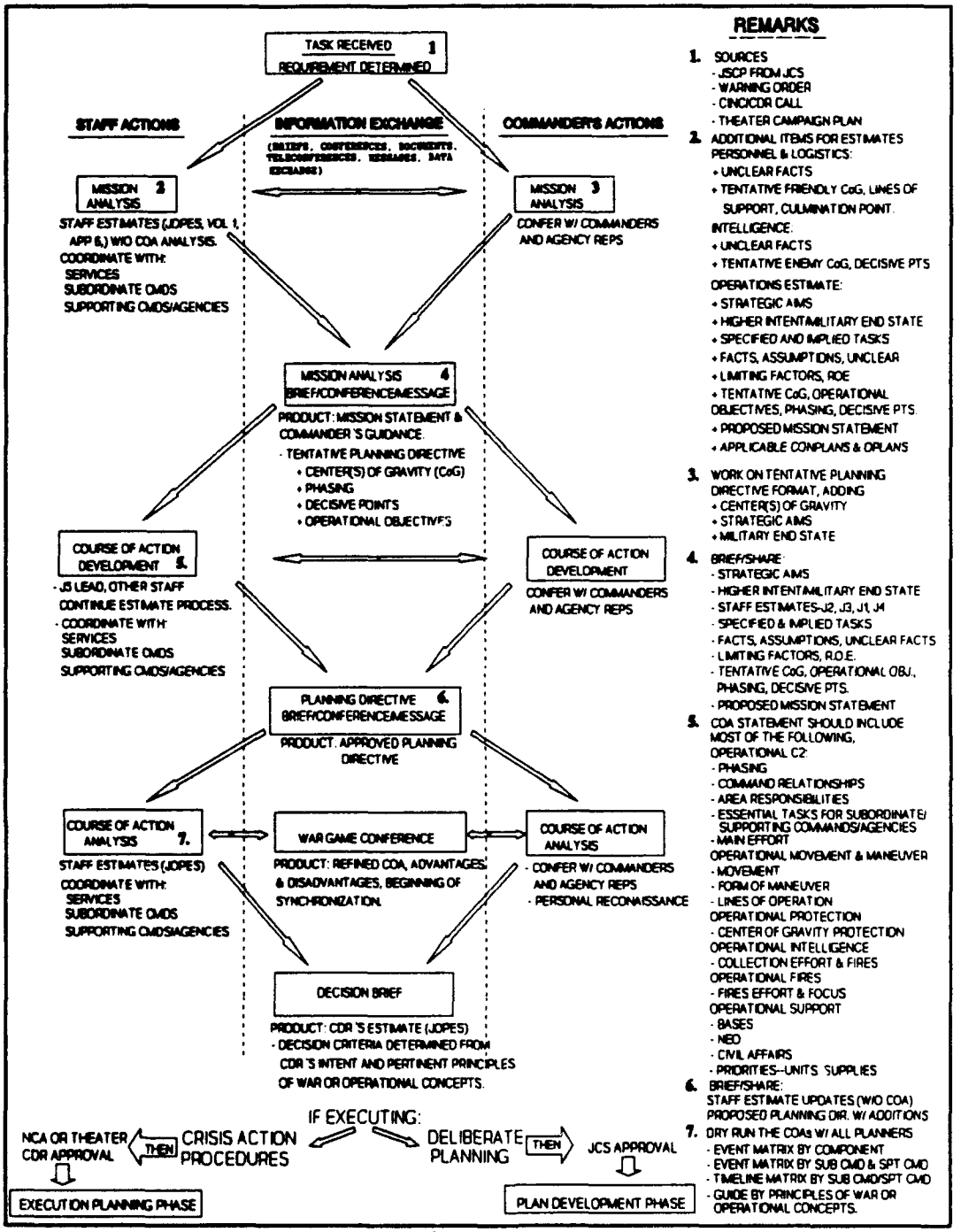

Figure 5

The operational decision-making process begins with the presentation of tasks requiring action by the command. The source of these tasks include the Joint

Strategic Capabilities Plan, which directs Combatant Commanders to develop joint plans,[52] or a higher command's campaign plan or warning order that requires a subordinate campaign plan. Also, the operational commander can initiate the process based on his own assessment of the need for a campaign plan. Regardless of the initiation catalyst, this process is applicable to both the crisis and deliberate planning process described in JOPES.

After initiation, both staff and commanders conduct analysis of the tasks or the situation to determine exactly what the requirements are for the command. The primary staff conducts mission analysis using the JOPES staff estimates as a guide. Staff elements must coordinate with subordinate and supporting commands and agencies to give the commander a full picture of the resources available and the distinctive viewpoint of the different players involved.

There are some inadequacies in the JOPES staff estimates, the most significant of which is the lack of an operations estimate format. The operations planners and the commander must analyze the ends described by higher headquarters, the means available for attaining those ends, and any direction given or situational realities that affect the way those means can be

employed. Figure 6 is a recommended mission analysis format for the operations planner.

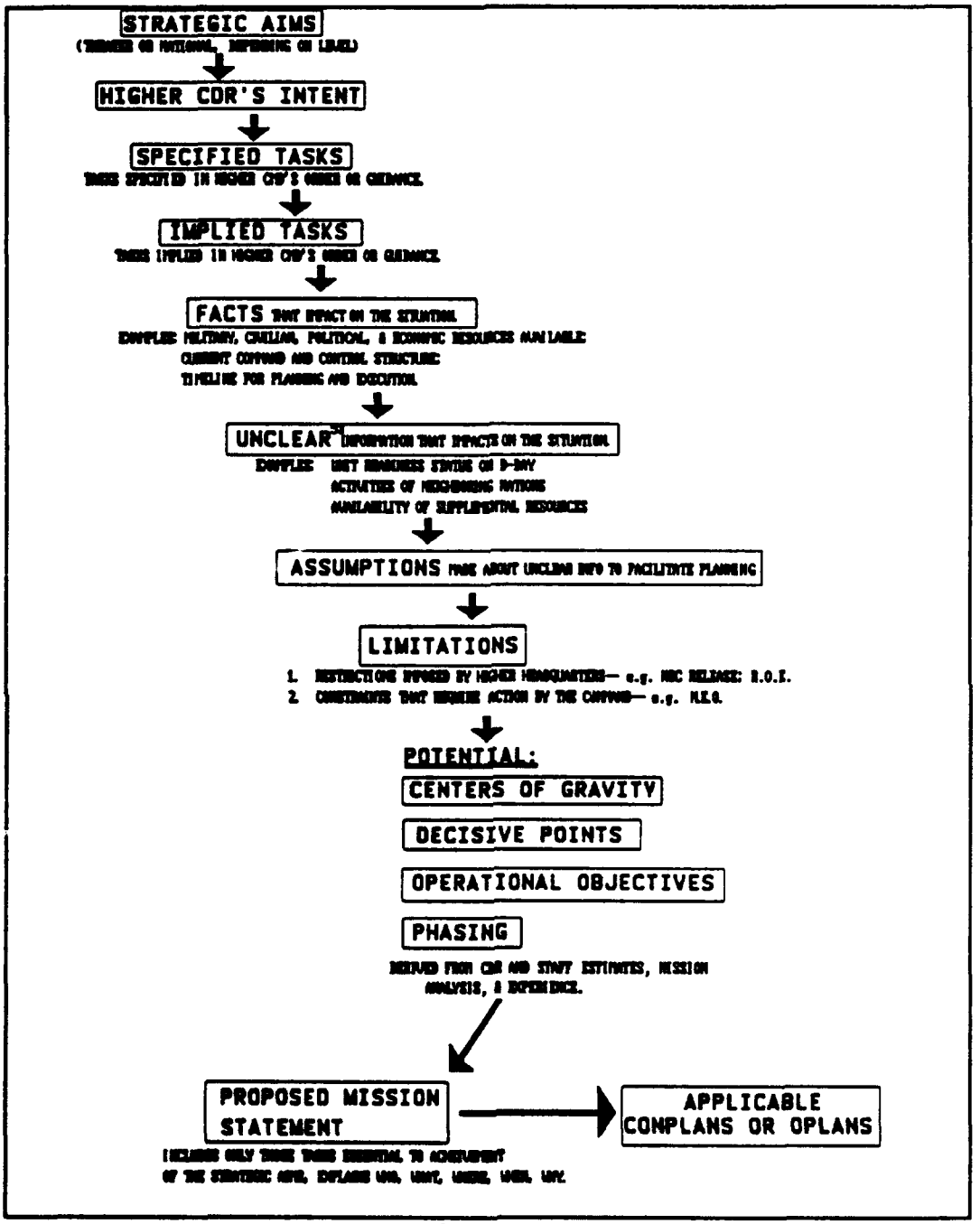

Figure 6

Other staff estimates need similar additions. All should include consideration of unclear[53] issues as an

intermediate step between facts and assumptions. This assists the planner and commander in checking the validity and necessity of assumptions.

The intelligence estimate must include in its consideration of the terrain and its effects on the enemy an assessment of potential decisive points. These decisive points will greatly assist the commander in focusing his efforts to maximize effects on the enemy. Along the same lines, the intelligence planner's consideration of the enemy situation should include his assessment of enemy operational and strategic center(s) of gravity.

The logistics estimate must include an assessment of potential friendly operational center(s) of gravity related to logistics. This reflects the key role logistics plays in providing the commander with freedom of action. The estimate should also indicate possible bases and lines of support to the theater and within it. Logistics planners should also state potential culmination points based on the availability of support. The commander and J-5 will use these potential culmination points to assist in determining whether phasing will be necessary.

The first formal information exchange should take place to inform the commander of the results of mission analysis. Time and space restrictions determine the

form that these exchange points take, i.e. briefing, conference, teleconference, document exchange, etc. The ideal is to have a key representative from the staff directorates, subordinate commands, and supporting commands present in the same location to facilitate information exchange.

In the mission analysis conference, the staff elements brief their respective estimates up to, but not including, the course of action analysis portion. The goal is to inform the commander on all aspects of the situation, gain command approval of the restated mission statement developed by the J-5, and gain the commander's planning guidance in the form of a tentative JOPES planning directive.

In his guidance, the commander should cover some operational concepts that are not in the current planning directive format. These concepts are:

- Enemy and friendly center(s) of gravity;
- Guidance on phasing of operations;
- Decisive points;
- Operational objectives.

After issuing the tentative planning directive the staff sections continue to develop their staff estimates, while the J-5 develops courses of action per the commander's guidance. These courses of action are developed in coordination with the staff and subordinate and supporting commands and agencies. Operational operating systems as defined in TRADOC Pam

11-9 help guide the content. Courses of action must also meet the joint planning criteria outlined earlier: adequacy; feasibility; acceptability; and compliance with joint doctrine. Figure 7 is a recommended course of action statement format.[54]

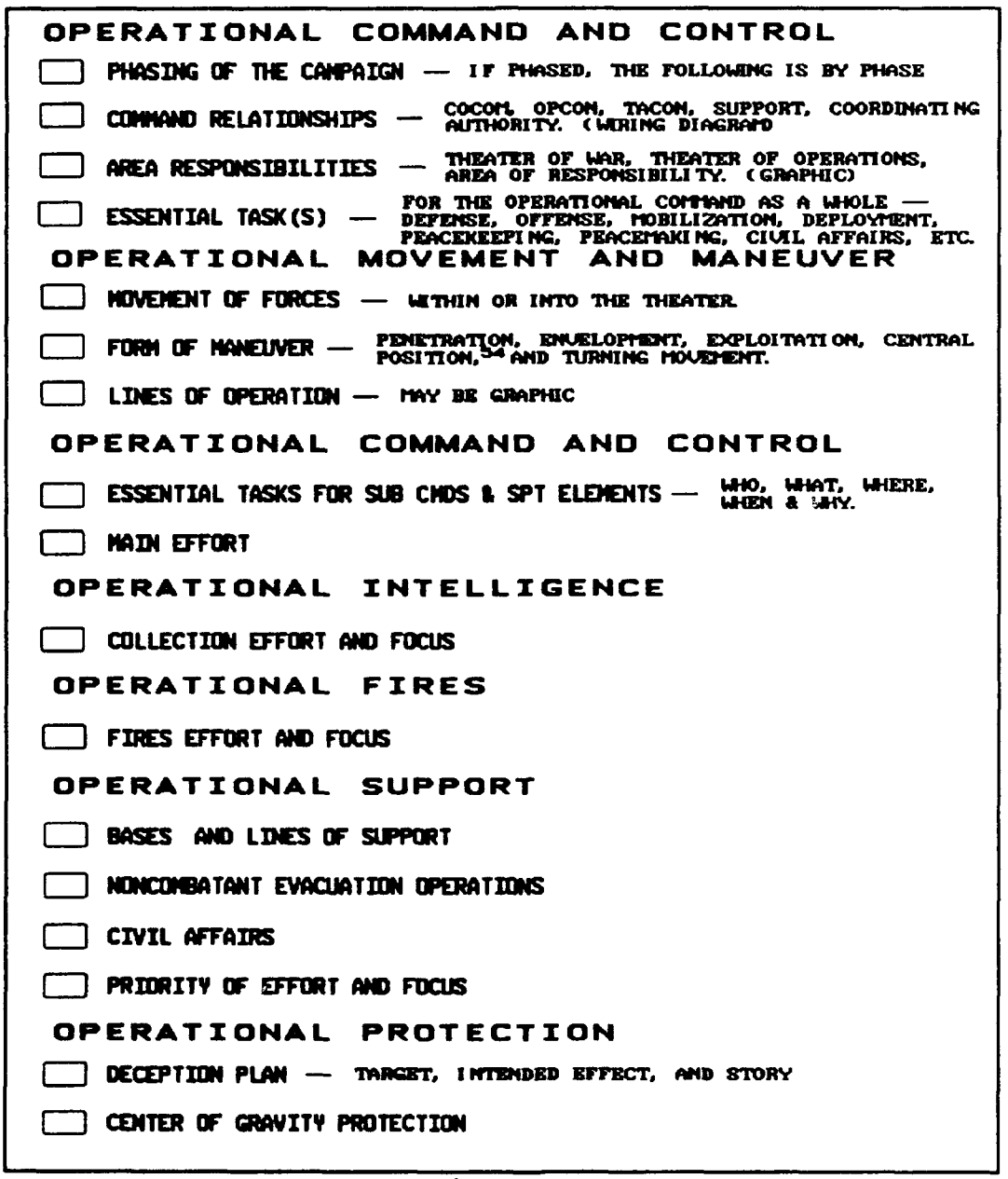

Figure 7

Completed course of action statements will be included in the proposed planning directive the staff briefs to the commander in the next information exchange step. As a part of the planning directive approval brief, staff sections also cover any updates to their original staff estimates. The goal of the planning directive brief is to gain the commander's approval for release of the planning directive to the staff, subordinate commands, and supporting commands or agencies.

Upon receipt of the planning directive, staff and command elements begin analyzing the courses of action from their own particular perspective. The staff estimate formats in JOPES give some general guidance on the separate analysis of courses of action, but a coordinated analysis technique like war gaming is absent from joint decision-making doctrine. To gain a full appreciation of the interaction of operational systems, service components, supporting agencies and commands, and allied forces, key planners from each of these elements must be involved in a dry run of each given course of action. Discussion of actions and reactions between opposing forces, neutral elements and the operational command provides an excellent view of advantages and disadvantages of each course of action. The course of action is also refined to alleviate

feasibility problems, resulting in a better product for the commander to consider.

There are numerous techniques for conducting the war game, two of which are described in Figures 8 and 9 respectively.

EVENT MATRIX	PHASE 1		PHASE 2				PHASE 3		PHASE 4
	MOBILIZATION	DEPLOYMENT TO STAGING	REHEARSAL & BUILD-UP	FORCED ENTRY	EXPAND BEACHHEAD	SECURE BASES	DEPLOY HEAVY FORCE	ATTACK TO DESTROY ARMY	REDEPLOY-MENT
TIME REQUIRED:									
ACTIONS/REACTIONS OF: ENEMY									
ALLIES/INTERESTED PARTIES									
SUBORDINATE/SUPPORTING COMMANDS OR AGENCIES									
LANDFOR									
NAVFOR									
AFFOR									
NAVFOR									
JTF									
SERVICES									
TRANSCOM									
DEPT OF STATE									
DEFENSE INTELLIGENCE AGENCY									

Figure 8

The war gaming technique in Figure 8 examines the actions of subordinate commands and supporting commands and agencies during major events of the course of action. The command and control set-up will determine the commands and agencies that the staff considers. The major events are not just those suggested by the course of action. The actions and reactions of the opposition, the host nation, allied forces, and other interested nations or forces suggest major events. The J-5, J-2, and political advisor cooperate in developing these events.

Once these planners complete the matrix, the J-5 leads the war gaming conference through each of the events, eliciting the actions, reactions, and counter-reactions of each of the players. As the planners discuss the interaction of the commands, clear advantages and disadvantages become clear, and these are noted for use later.

This war game process can be computer-assisted to speed the development of fact-oriented data such as deployment times and resource usage rates. But the key to success is the interaction of the various players and staff officers, taking advantage of their experience, knowledge, and training to make the best analysis possible of a thoroughly subjective situation.

COMPONENT:	LAND FORCES			SOF	NAVAL FORCES				AIR FORCES							MARINE FORCES		
CAPABILITY	LIGHT	HVY	MAGTF	SOF	SURFCE	SUB SURFACE	CARRIER	MAGTF	STRATEGIC	CTR AIR	AI/SAI	CAS	LIFT	RECON	SPACE	AMPHIB	LAND	MAGTF
CMD & CONTROL																		
MAJOR OPERATIONS																		
SUB-CAMPAIGNS																		
MOVEMENT																		
MANEUVER																		
MOBILITY																		
COUNTERMOBILITY																		
AREA OF CONTROL																		
FIRES, CONVENTNL																		
FIRES, NUCLEAR																		
ELECTRONIC WARFARE																		
PROTECTION, CnS																		
AIR DEFENSE																		
OPSEC																		
DECEPTION																		
INTELLIGENCE																		
INTELL GATHERING																		
SPECIAL OPS																		
PSYOPS																		
DEEP OPERATIONS																		
AMPHIBIOUS OPS																		
SEAD																		
COUNTER-AIR																		
AIR INTERDICTION																		
SUPPORT																		
ARM																		
FUEL																		
FEED																		
FIX/MAINTAIN																		
MAN																		
DISTRIBUTE																		
BASES																		
NBC																		
CIVIL AFFAIRS																		

DESCRIPTION OF PHASE:

ENEMY ACTIONS/REACTIONS:

ALLIES' ACTIONS/REACTIONS:

INTERESTED PARTIES' ACTIONS/REACTIONS:

Figure 9

The war gaming technique in Figure 9[55] examines each phase as a whole, comparing component capabilities against functions of the operational operating systems. The J-5, J-2, and political advisor still describe the

situation as discussed earlier, but in general terms that key on the overall action, reaction and counter-reaction to the events of the phase. The staff planners then describe actions required in each of the functions to successfully achieve the objectives of the phase in question.

One advantage to this technique is its direct link to the operational operating systems through the functions. If the original course of action development was not well tied to operational principles, this compensates well for that problem. One disadvantage is the lack of time-based analysis that points out problems in synchronization. The war gamers will have to be careful to not simultaneously commit more than their resources allow during a given point in the phase. Also, part of the refinement that must occur in this analysis is the development of command relationships that facilitate the employment of component capabilities as envisaged in the war game.

Regardless of the technique used, some sort of war gaming must occur to give the commander the best support possible for his decision. The current joint emphasis on separate analysis of courses of action does not adequately address the intricacies of the operational level of war with its interplay of actions between nations, services, and other parties.

Once war gaming is complete, the staff elements and subordinate command representatives use their in-depth understanding of the courses of action to decide on one to recommend to the commander. A technique for doing this is the decision matrix.

As in the tactical process, each staff section compares the disadvantages and advantages of each course of action to determine the one best suited to meet the commander's intent and satisfy operational principles. One major difference is the need to include component and agency representatives in the analysis process. The commander needs these subject matter experts to help him understand the impact of courses of action on the wide range of capabilities available.

The form of this comparison can vary, but using decision criteria derived from the commander's guidance and pertinent operational concepts has great value. If the commander's intent emphasizes speed, then speed must be a decision criteria. Potentially applicable operational concepts are available from many sources. The principles of war, used for the same purpose in tactical decision-making, may provide appropriate criteria. Joint Pub 1 lists principles of joint warfare derived from the principles of war. These are: unity of effort; concentration; agility; initiative;

extended in scope; freedom of action; sustainment; and clarity.[56] Regardless of the source, the key is to provide the commander recognized indicators of good operational art that relate to the current operation.

The staff compares each course of action against the criteria separately. They give each criteria a numerical value based on the course's related advantages and disadvantages.[57] The comparison of these relative numbers in a matrix provides the commander with a decision-making tool that summarizes the analysis of his planners.

The decision-making process ends with the decision brief. This brief presents the complete staff estimates, the course of action analysis of the components and agencies, and the proposed commander's estimate (JOPES) to the operational commander. If executing the deliberate planning process the approved commander's estimate, with the selected course of action, is submitted for Joint Chiefs of Staff review and approval. If engaged in the crisis action planning process the commander's estimate is submitted through the Chairman, Joint Chiefs of Staff to the National Command Authority for approval.

The proposed decision-making model alleviates the problems noted at the beginning of this section. The diagram is a roadmap for points in the process that

require an exchange of information and a decision from the commander. These decisions allow the staff to continue the process as outlined in joint doctrine.

The diagram also recommends additions to the mission analysis process. These additions require the staff and commander to go through the operational process of analyzing ends, ways and means. The estimates' outline helps define these esoteric terms into concrete information requirements. This is the start point for the most important goal of operational art--the achievement of strategic aims.

Operational concepts are tied directly into course of action development and analysis through the format for course of action statements, the war gaming process, and the decision criteria for course of action selection. These steps force planners and commanders to consider concepts of operational design which may be key to their success.

This analytic process performs much the same function as its analogue at the tactical level. It avoids reliance on a recognitional, i.e. experience-based, decision-making process with its attendant narrowness of focus. Instead, it encourages the examination of a wide range of options with concepts and principles that might otherwise be hard to ascertain without great operational experience. Even

with experienced planners the process compensates for human limitations by ensuring that key operational concepts are not omitted from consideration. This model provides a definite edge to the operational decision-maker, thereby improving the chances of success on the battlefield.

V. CONCLUSION

To improve the existing operational decision-making process, the following changes are necessary:

1. An analytic process for course of action selection must be made a part of joint doctrine. Whether or not this process is based on the one proposed in Chapter IV is inconsequential, the minimal requirement is that it provide a logical framework for staff and command action, define a common joint approach to course of action development and selection, and ensure that operational concepts and theory are incorporated in the thought process.

2. To compensate for lack of experience in operational decision-making, operational-level schools and training such as the School of Advanced Military Studies should emphasize both operational theory and the formal, doctrinal decision-making process required

by joint doctrine.

3. Once the standard for operational decision-making is set, the Joint Staff must develop an equivalent to the Battle Command Training Program to assess the joint commands' ability to conduct effective decision-making.

The course of a nation's history is directly affected by decisions that an operational commander makes. On the joint battlefield, tempo and lethality will not allow for mistaken or inadequate courses of action. National will is too delicate to withstand the onslaught of poor operational decisions that result in no progress toward strategic aims or, worse yet, strategic losses.

Given the importance of their decisions, operational decision-makers are poorly served by the doctrinal joint decision-making process. The desire to not interfere in command prerogatives and leave the details of process to individual combatant commanders is a failure to accept the importance of the practice of operational art. The effort expended on improving the odds of tactical success should be at least matched by the effort at the operational level.

ANNEX P

CONCEPT DEVELOPMENT FORMATS

1. The CINC normally will provide his staff, subordinate commanders, and supporting commanders with pertinent initial planning guidance to permit work to begin on developing the CINC's Strategic Concept. The staffs use this guidance to begin work on developing the Staff Estimates which will be used to form the Commander's Estimate.

2. Typical data provided in preliminary guidance will usually include characteristics of the area of operations, enemy capabilities, the mission statement, assumptions, special weapons, political and psychological considerations, tentative COAs, and a proposed planning schedule.

3. The example formats contained in Appendixes 1 thru 6 to this annex may be useful in developing the CINC's Planning Directive, Staff Estimates, and the Commanders's Estimate used in the Concept Development Phase of the deliberate planning process.

Appendixes:
1--Planning Directive
2--Personnel Estimate
3--Intelligence Estimate
4--Logistics Estimate
5--Command, Control, and Communications Systems Estimate
6--Commander's Estimate of the Situation

Appendix A: JOPES Staff and Command Estimate Formats (continued).

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APPENDIX 1

PLANNING DIRECTIVE

SECURITY CLASSIFICATION

Copy Number _____
Issuing Headquarters
Place of Issue
Message Reference/Number (Date-time Group, Month, Year)

PLANNING DIRECTIVE FOR (Plan designation)

( ) REFERENCES: a. Maps or charts

b. Pertinent documents

1. ( ) MISSION

a. ( ) Write a clear and concise statement of the mission for the command.

b. ( ) A paragraph should list the tasks, including:

(1) ( ) Those assigned by higher headquarters.

(2) ( ) Those deduced or implied tasks that must be described to convey a clear understanding of the overall mission.

c. ( ) If the analysis of the mission or task(s) has not progressed to the point where it can be formally stated, present the commander's best estimate of the mission.

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2. ( ) COMMANDER'S ANALYSIS

a. ( ) This paragraph contains the commander's analysis of the mission and, in broad terms, how he expects the mission to be carried out.

b. ( ) Outline, in broad terms, the phasing of the operation.

3. ( ) ASSUMPTIONS

a. ( ) State assumptions necessary to continue planning. They will be treated as facts by subordinate commands.

b. ( ) The list is not final; assumptions may be added or dropped during planning.

4. ( ) FORCES APPORTIONED. Give information on the type and availability of major combat forces.

a. ( ) Assigned forces.

b. ( ) Augmenting forces.

5. ( ) PROPOSED COURSES OF ACTION

a. ( ) List courses of action (COAs) to be considered by the staff. Include those tentative COAs that were suggested

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by the commander in the initial planning guidance, as well as those proposed by the J-5 for consideration.

b. ( ) Any of these COAs may be discarded and/or refined and new ones identified and proposed as the planning process continues.

6. ( ) GUIDANCE

a. ( ) Nuclear and Chemical Weapons

(1) ( ) Include a brief statement by the commander that outlines the conditions under which nuclear and chemical weapons might be used.

(2) ( ) If their encounter or use is considered a reasonable possibility, include preliminary estimates of allocations, priorities, and restraints.

b. ( ) Political Considerations

(1) ( ) Include guidance from higher authority.

(2) ( ) List Status of Forces Agreements (SOFA) or basing rights that affect the operation.

c. ( ) Mobility Resources

(1) ( ) Identify strategic or tactical lift assets apportioned for planning.

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(2) ( ) Highlight priorities or constraints for transportation assets.

d. ( ) Supporting/Subordinate Commands and Agencies. Give preliminary information about support from adjacent and lower echelons.

e. ( ) Command and Control. State the command and control organization selected by the commander.

f. ( ) Other. Include guidance that the commander determines to be necessary.

7. ( ) TASKS

a. ( ) Delineate staff responsibilities to begin development of staff estimates.

b. ( ) Coordinating instructions.

(1) ( ) Joint board requirements.

(2) ( ) Adjacent/subordinate command and agency coordination required.

(3) ( ) Uni-service, common, and cross-servicing coordination required.

8. ( ) ADMINISTRATION

a. ( ) Planning schedule.

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(1) ( ) Planning conferences scheduled.

(2) ( ) Plan completion suspense.

(3) ( ) Annex completion suspense.

(4) ( ) Other milestone events determined necessary.

b. ( ) Interstaff liaison instructions.

c. ( ) Coordination

(1) ( ) Action officer designation.

(2) ( ) Reports known or anticipated.

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SECURITY CLASSIFICATION

APPENDIX 2

PERSONNEL ESTIMATE

SECURITY CLASSIFICATION

Originating Section, Issuing Headquarters*
Place of Issue
Date-time Group, Month, Year

PERSONNEL ESTIMATE NUMBER _____**

( ) REFERENCES: a. Maps and charts

b. Other pertinent documents.

1. ( ) MISSION. **State the mission of the command as a whole, taken from the commander's mission analysis, planning guidance, or other statements.**

---

* When this estimate is distributed outside the issuing headquarters, the first line of the heading is the official designation of the issuing command, and the ending of the estimate is modified to include authentication by the authoring section, division, or other official according to local policy.

** Normally, these are numbered sequentially during a calendar year.

SECURITY CLASSIFICATION

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2. ( ) SITUATION AND CONSIDERATIONS

a. ( ) Characteristics of the Area of Operation. Summarize data about the area, taken from the intelligence estimate or area study, with specific emphasis on significant factors affecting personnel activities.

b. ( ) Enemy Forces

(1) ( ) Strength and Dispositions. Refer to current intelligence estimate.

(2) ( ) Enemy Capabilities. Discuss enemy capabilities, taken from the current intelligence estimate, with specific emphasis on their impact on personnel matters.

c. ( ) Friendly Forces

(1) ( ) Present Disposition of Major Elements. Include an estimate of their strengths.

(2) ( ) Own Courses of Action. State the proposed COAs under consideration, obtained from operations or plans division.

(3) ( ) Probable Tactical Developments. Review major deployments necessary in initial and subsequent phases of the operation proposed.

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d. ( ) Logistic Situation. State known logistic problems, if any, that may affect the personnel situation.

e. ( ) Command, Control, and Communications Situation. State the command, control, and communications situation, emphasizing known problems that may affect the personnel situation.

f. ( ) Assumptions. State assumptions about the personnel situation made for this estimate. Since basic assumptions for the operation already have been made and will appear in planning guidance and in the plan itself, they should not be repeated here. Certain personnel assumptions that may have been made in preparing this estimate should be stated here.

g. ( ) Special Features. List anything not covered elsewhere in the estimate that may influence the personnel situation.

h. ( ) Personnel Situation. State known or anticipated personnel problems that may influence selection of a specific COA.

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3. ( ) PERSONNEL ANALYSIS OF OWN COURSES OF ACTION. Make an orderly examination of the personnel factors influencing the proposed COAs to determine the manner and degree of that influence and to isolate the personnel implications that should be weighed by the commander in the commander's estimate of the situation.

a. ( ) Analyze each COA from the personnel point of view. The detail in which the analysis is made is determined by considering the level of command, scope of contemplated operations, and urgency of need.

b. ( ) The personnel factors described in paragraph 2 establish the elements to be analyzed for each COA under consideration. Examine these personnel factors realistically and include appropriate considerations of climate and weather, terrain, hydrography, enemy capabilities, and other significant factors that may have an impact on the personnel situation as it affects the COAs.

c. ( ) Throughout the analysis, keep personnel considerations foremost in mind. The analysis is not intended to

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produce a decision but to ensure that all applicable personnel factors have been considered and to be the basis of paragraphs 4 and 5.

4. ( ) COMPARISON OF OWN COURSES OF ACTION

a. ( ) List the advantages and disadvantages of each proposed COA--from the J-1's point of view.

b. ( ) It probably will not be necessary to use a work sheet as in the commander's estimate, but it can be employed.

5. ( ) CONCLUSIONS

a. ( ) State whether or not the mission set forth in paragraph 1 can be supported from a personnel standpoint.

b. ( ) State which COA under consideration can best be supported from a personnel standpoint.

c. ( ) Identify the major personnel deficiencies that must be brought to the commander's attention. Include recommendations of methods to eliminate or reduce the effects of these deficiencies.

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(Signed) _____
J-1

ANNEXES: (By letter and title). Use annexes when the information is in graphs or is of such detail and volume that inclusion in the body makes the estimates too cumbersome. Annexes should be lettered sequentially as they occur throughout the estimate.

DISTRIBUTION: (According to procedures and policies of the issuing headquarters)

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APPENDIX 3

INTELLIGENCE ESTIMATE

SECURITY CLASSIFICATION

Originating Section, Issuing Headquarters*
Place of Issue
Day, Month, Year, Hour, Zone

INTELLIGENCE ESTIMATE NUMBER _____**

( ) REFERENCES: a. Maps and Charts.

b. Other relevant documents.

1. ( ) MISSION. Statement of the assigned task and its purpose. The mission of the command as a whole is taken from the commander's mission analysis, planning guidance, or other statement.

2. ( ) ENEMY SITUATION. Statement of conditions which exist and indication of effects of these conditions on enemy capabilities and the assigned mission. This paragraph describes the

* When this estimate is distributed outside the issuing headquarters, the first line of the heading is the official designation of the issuing command, and the ending of the estimate is modified to include authentication by the authoring section, division, or other official according to local policy.
** Normally, these are numbered sequentially during a calendar year.

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area of operations, the enemy military situation, and the effect of these two factors on enemy capabilities.

a. ( ) Characteristics of the Area of Operations. This paragraph discusses the effect of the physical characteristics of the area of operations on military activities of both combatants. If an analysis of the area has been prepared separately, this paragraph in the intelligence estimate may simply refer to it, then discuss the effects of the existing situation on military operations in the area.

(1) ( ) Military Geography

(a) ( ) Topography

1. ( ) Existing Situation. This describes relief and drainage, vegetation, surface materials, cultural features, and other characteristics in terms of their effect on key terrain, observation, fields of fire, obstacles, cover and concealment, avenues of approach, lines of communication, and landing areas and zones.

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2. ( ) Effect on Enemy Capabilities. This discusses the effect of topography on broad enemy capabilities such as attack and defense, describing generally how the topography affects each type of activity. The effect on employment of nuclear and CB weapons; amphibious, airborne, or airlanded forces; surveillance devices and systems; communications equipment and systems; electronic warfare; tactical cover and deception; logistical support; and other appropriate considerations should be included.

3. ( ) Effect of Friendly Course of Action. This discusses the effects of topography on friendly forces' military operations (attack, defense, etc.) in the same fashion as for enemy capabilities in the preceding subparagraphs.

(b) ( ) Hydrography

1. ( ) Existing Situation. Here are described the nature of the coastline; adjacent

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SECURITY CLASSIFICATION

islands; location, extent, and capacity of landing beaches and their approaches and exits; nature of the offshore approaches, including type of bottom and gradients; natural obstacles; surf, tide, and current conditions.

2. ( ) Effect on Enemy Capabilities. This section discusses the effects of the existing situation on broad enemy capabilities.

3. ( ) Effect of Friendly Courses of Action. This section discusses the effects of the existing situation on broad COAs for friendly forces.

(c) ( ) Climate and Weather

1. ( ) Existing Situation. This is a descriptive summary of temperature, cloud cover, visibility, precipitation, light data, and other climate and weather conditions and their general effects of roads, rivers, soil trafficability, and observation.

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2. ( ) Effect on Enemy Capabilities. This discusses the effects of the existing climate and weather situation on broad enemy capabilities.

3. ( ) Effect of Friendly Courses of Action. This section discusses the effects of the existing climate and weather situation on broad COAs for friendly forces.

(2) ( ) Transportation

(a) ( ) Existing Situation. Here are described roads, railways, inland waterways, airfields, and other physical characteristics of the transportation system; capabilities of the transportation system in terms of rolling stock, barge capacities, and terminal facilities; and other pertinent data.

(b) ( ) Effect of Enemy Capabilities. This discusses the effects of the existing transportation system and capabilities on broad enemy capabilities.

SECURITY CLASSIFICATION

SECURITY CLASSIFICATION

(c) ( ) Effect of Friendly Courses of Action. This discusses the effects of the existing transportation system and capabilities on broad COAs for friendly forces.

(3) ( ) Telecommunications

(a) ( ) Existing Situation. Telecommunications facilities and capabilities in the area are described.

(b) ( ) Effect on Enemy Capabilities. The effects of the existing telecommunications situation on broad enemy capabilities are discussed.

(c) ( ) Effect on Friendly Courses of Action. The effects of the existing telecommunications situation on broad COAs for friendly forces are discussed.

(4) ( ) Politics

(a) ( ) Existing Situation. This describes the organization and operation of civil government in the area of operation.

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(b) ( ) Effect on Enemy Capabilities. This considers the effects of the political situation on broad enemy capabilities.

(c) ( ) Effect on Friendly Courses of Action. This considers the effects of the political situation on broad COAs for friendly forces.

(5) ( ) Economics

(a) ( ) Existing Situation. This is a description of industry, public works and utilities, finance, banking, currency, commerce, agriculture, trades and professions, labor force, and other related factors.

(b) ( ) Effect on Enemy Capabilities. This discusses the effects of the economic situation on broad enemy capabilities.

(c) ( ) Effect on Friendly Courses of Action. This discusses the effects of the economic situation on broad COAs for friendly forces.

(6) ( ) Sociology

(a) ( ) Existing Situation. Here are described language, religion, social institutions and

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attitudes, minority groups, population distribution, health and sanitation, and other related factors.

(b) ( ) Effect on Enemy Capabilities. This discusses the effects of the sociological situation on broad enemy capabilities.

(c) ( ) Effect on Friendly Courses of Action. This discusses the effects of the sociological situation on broad COAs for friendly forces.

(7) ( ) Science and Technology

(a) ( ) Existing Situation. The level of science and technology in the area of operations is described here.

(b) ( ) Effect on Enemy Capabilities. The effects of science and technology on broad enemy capabilities are discussed.

(c) ( ) Effect on Friendly Courses of Action. The effects of science and technology on broad COAs for friendly forces are discussed.

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b. ( ) Enemy Military Situation (ground, naval, air, service)

(1) ( ) Strength. This section gives the number and size of enemy units committed and enemy reinforcements available for use in the area of operations. Ground strength, air power, naval forces, nuclear and CB weapons, electronic warfare, unconventional warfare, surveillance potential, and all other strengths (which might be significant) are considered.

(2) ( ) Composition. This details the structure of enemy forces (order of battle) with description of unusual organizational features, identity, armament, and weapon systems.

(3) ( ) Location and Disposition. This describes the geographical location of enemy forces in the area, including fire support elements, command and control facilities, air, naval, and missile forces, and bases.

(4) ( ) Availability of Reinforcements. Here are described enemy reinforcement capabilities in terms of ground, air, naval, missile, nuclear, and CB forces and

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weapons, terrain, weather, road and rail nets, transportation, replacements, labor forces, prisoner of war policy, and possible aid from sympathetic or participating neighbors.

(5) ( ) Movements and Activities. This describes the latest known enemy activities in the area.

(6) ( ) Logistics. This describes levels of supply, resupply ability, and capacity of beaches, ports, roads, railways, airfields, and other facilities to support supply and resupply. It also considers hospitalization and evacuation, military construction, labor resources, and maintenance of combat equipment.

(7) ( ) Operational Capability to Launch Missiles. This describes the total missile capability that can be brought to bear on forces operating in the area, including characteristics of missile systems, location and capacity of launch or delivery units, initial and sustained launch rates, size and location of stockpiles, and other pertinent factors.

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(8) ( ) Serviceability and Operational Rates of Aircraft. This describes the total aircraft inventory by type, performance characteristics of operational aircraft, initial and sustained sortie rates of aircraft by type, and other pertinent factors.

(9) ( ) Operational Capabilities of Combatant Vessels. This describes the number, type, and operational characteristics of ships, boats, and craft in the naval inventory; base location; and capacity for support.

(10) ( ) Technical Characteristics of Equipment. This describes the technical characteristics of major items of equipment in the enemy inventory not already considered (such as missiles, aircraft, and naval vessels).

(11) ( ) Electronics Intelligence. This describes the enemy intelligence-gathering capability using electronic devices.

(12) ( ) Nuclear and CB Weapons. This describes the types and characteristics of nuclear and CB weapons in

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the enemy inventory, stockpile data, delivery capabilities, nuclear and CB employment policies and techniques, and other pertinent factors.

(13) ( ) Significant Strengths and Weaknesses. Here are discussed the significant enemy strengths and weaknesses perceived from the facts presented in the preceding subparagraphs.

c. ( ) Enemy Unconventional and Psychological Warfare Situation

(1) ( ) Guerrilla. This describes the enemy capability for, policy with regard to, and current status in the area of guerrilla or insurgent operations.

(2) ( ) Psychological. This describes enemy doctrine, techniques, methods, organization for, and conduct of psychological operations in the area of operations.

(3) ( ) Subversion. This describes enemy doctrine, techniques, methods, organization for, and conduct of subversion in the area of operations.

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(4) ( ) Sabotage. This details enemy organization and potential for and conduct of sabotage in the area of operations.

3. ( ) ENEMY CAPABILITIES. This paragraph contains a separate listing of each enemy capability which can affect the accomplishment of the assigned mission. Each enemy capability should contain:

a. ( ) What the enemy can do?

b. ( ) Where they can do it?

c. ( ) When they can start it and get it done?

d. ( ) What strength they can devote to the task?

In describing enemy capabilities, the J-2 must be able to tell the commander what the enemy can do using its forces in a joint effort. First, of course, the J-2 must assess the enemy's ground, naval, and air forces. It is customary to enumerate separately the enemy's nuclear, CB, and unconventional warfare capacities. Hypothetical examples follow:

a. ( ) Ground Capabilities

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(1) ( ) The enemy can attack at any time along our front with an estimated six infantry divisions and two tank divisions supported by 24 battalions of artillery.

(2) ( ) The enemy can defend now in its present position with seven infantry divisions supported by two tank divisions and 16 battalions of medium and light artillery.

(3) ( ) The enemy can reinforce its attack (or defense) with all or part of the following units in the times and places indicated:

UNIT	PLACE	TIME
315th Airborne Div	Vic RESOGA	8 hrs after starting time
41st Motorized	Vic CARDINAL	6 hrs after starting time

b. ( ) Air Capabilities

(1) ( ) Starting now, and based on an estimated strength of 300 fighters and 100 medium bomber aircraft, the enemy can attack in the area of operations with 240 fighter sorties per day for the first two days, followed

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by a sustained rate of 150 sorties per day, and 60 bomber sorties per day, for one day followed by a sustained rate of 48 sorties per day.

(2) ( ) Using airfields in the vicinity of _____ the enemy has sufficient transport sorties to lift one regiment in a single lift to airfields in the vicinity of _____, _____, and _____ within four hours' flying time.

c. ( ) Naval Capabilities. Starting now, the enemy can conduct sustained sea and air operations in the entire area with 6 DDs, 4 FFs, 1 CV, 7 SSNs, a mine force of 20 craft, and 70 gunboats and smaller craft now on station in the area.

d. ( ) Nuclear Capabilities. The enemy can employ at any time and in any part of the area of operations an estimated 40-60 nuclear weapons of yields from 2 to 50 KT delivered by tube and rocket artillery, guided missile, and aircraft.

e. ( ) CB Capabilities. The enemy can employ the CB agents _____, _____, and _____ in the area of operations at any time delivered by air, tube, and rocket artillery, and guided missile.

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f. ( ) UW Capability. The enemy can conduct UW operations in the area within ten days after starting the operation using dissident ethnic elements and the political adversaries of the current government.

g. ( ) Joint Capabilities. The enemy can continue to defend in their present position with 6 infantry divisions, supported by 16 artillery battalions, and reinforced by 3 mechanized divisions within eight hours after starting movement; enemy defense also can be supported by 150 fighter sorties daily for a sustained period and by continuous naval surface and air operations employing six DDs, four FFs, seven SSNs, and one CV.

4. ( ) ANALYSIS OF ENEMY CAPABILITIES. Analyze each capability in light of the assigned mission, considering all applicable factors from paragraph 2 above and attempt to determine and give reasons for the relative order probability of adoption by the enemy. Discuss enemy vulnerabilities. In this paragraph each enemy capability is examined in a discussion of the factors that favor or militate against its adoption by the enemy. When applicable, the analysis of each capability should also include a

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discussion of enemy vulnerabilities attendant to that capability, i.e., conditions or circumstances of the enemy situation that render the enemy especially liable to damage, deception, or defeat. Finally, the analysis should include a discussion of any indications that point to possible adoption of the capability. For example, the following:

a. ( ) Attack now with forces along the forward edge of the battle area....

(1) ( ) The following factors favor the enemy's adoption of this capability:

(a) ( ) ....

(b) ( ) ....

(2) ( ) The following factors militate against the enemy's adoption of this capability:

(a) ( ) Road and rail nets will not support large-scale troop and supply movements necessary for an attack in the area.

(b) ( ) Terrain in the area does not favor an attack.

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(3) ( ) Adoption of this capability will expose the enemy's west flank to counterattack.

(4) ( ) Except for minor patrol activity in the _____ area, there are no indications or adoption of this capability.

b. ( ) Delay from present positions along the _____ River line....

(1) ( ) The following factors favor the enemy's adoption of this capability:

(a) ( ) There are several excellent natural barriers between the _____ River and the _____ Mountains.

(b) ( ) The effectiveness of the water barriers will improve, and trafficability on the upland slopes of the terrain barriers will deteriorate with advent of the monsoon.

(2) ( ) The following factors militate against the enemy's adoption of this capability:

(a) ( ) ....

(b) ( ) ....

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(3) ( ) In the adoption of this capability the enemy's lines of communication will be restricted by a limited road and rail net which can easily be interdicted.

(4) ( ) The following facts indicate adoption of this capability:

(a) ( ) Aerial photography indicates some preparation of barriers in successive positions.

(b) ( ) Considerable troop movement and pre-positioning of floating bridge equipment along the water barriers have been detected.

5. ( ) CONCLUSIONS. Conclusions resulting from discussion in paragraph 4 above and including, when possible, a concise statement of the effects of each capability on the accomplishment of the assigned mission. Cite enemy vulnerabilities where applicable. This paragraph contains a summary of enemy capabilities most likely to be adopted, listed in the order of relative probability if sufficient information is available to permit such an estimate. If appropriate, it should also include a concise statement of the effects of each enemy capability on the

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accomplishment of the assigned mission. Exploitable vulnerabilities should also be listed, where applicable.

a. ( ) Enemy Capabilities in Relative Probability of Adoption

(1) ( ) Defend in present locations with....

(2) ( ) Delay from present positions along....

(3) ( ) Reinforce the defense or delay with....

(4) ( ) Conduct UW operations in the area....

b. ( ) Vulnerabilities

(1) ( ) Enemy left (west) flank is open to envelopment by amphibious assault....

(2) ( ) The enemy's air search radar coverage is poor in the left (west) portion of their defensive sector....

(Signed) _____
J-2

(The staff division chief signs the staff estimates produced by that division. If the estimate is to be distributed outside the headquarters, the heading and signature block must be changed to reflect that fact.)

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ANNEXES: (By letter and title) Annexes should be included where the information is in graphs or of such detail and volume that inclusion makes the body of the estimate cumbersome. They should be lettered sequentially as they occur throughout the estimate.

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APPENDIX 4

LOGISTIC ESTIMATE

SECURITY CLASSIFICATION

Originating Division, Issuing Headquarters*
Place of Issue
Date-time Group, Month, Year

LOGISTIC ESTIMATE NUMBER _____**

( ) REFERENCES: a. Maps and charts.

b. Other pertinent documents.

1. ( ) MISSION. State the mission of the command as a whole, taken from the commander's mission analysis, planning guidance, or other statements.

2. ( ) SITUATION AND CONSIDERATIONS

a. ( ) Characteristics of the Area of Operation. Summarize data about the area, taken from the intelligence estimate or area study, with specific emphasis on significant factors affecting logistic activities.

* When this estimate is distributed outside the issuing headquarters, the first line of the heading is the official designation of the issuing command, and the ending of the estimate is modified to include authentication by the authoring section, division, or other official according to local policy.

** Normally, these are numbered sequentially during a calendar year.

SECURITY CLASSIFICATION

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b. ( ) Enemy Forces

(1) ( ) Strength and Dispositions. Refer to current intelligence estimate.

(2) ( ) Enemy Capabilities. Discuss enemy capabilities, taken from the current intelligence estimate, with specific emphasis on their impact on the logistic situation.

c. ( ) Friendly Forces

(1) ( ) Present Disposition of Major Elements. Include an estimate of their strengths.

(2) ( ) Own Courses of Action. State the proposed COAs under consideration, obtained from operations or plans division.

(3) ( ) Probable Tactical Developments. Review major deployments and logistic preparations necessary in all phases of the operation proposed.

d. ( ) Logistic Situation. State known personnel problems, if any, that may affect the logistic situation.

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e. ( ) Command, Control, and Communications Situation. State the command, control, and communications situation, emphasizing known command, control, and communications problems that may affect the logistic situation.

f. ( ) Assumptions. State assumptions about the logistic aspects of the situation made for this estimate. Since basic assumptions for the operation already have been made and will appear in planning guidance and in the plan itself, they should not be repeated here. Certain logistic assumptions that may have been made in preparing this estimate, and those should be stated.

g. ( ) Special Features. Special features not covered elsewhere in the estimate but that may influence the logistic situation may be stated here.

h. ( ) Logistic Situation

(1) ( ) Supply and Service Installations. Describe and give location of key supply and service installations that will be used to support the operation.

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(2) ( ) Supply. State availability of PWRS, authorized levels of supply, known deficiencies of supply stocks and supply systems, and responsibilities and policies regarding supply.

(3) ( ) Transportation. List air, sea, and surface transportation availability, coordination, regulations, lift capability, responsibilities, and policies regarding supply.

(4) ( ) Medical Services. Describe availability of evacuation and hospital facilities and medical responsibilities and policies, including the anticipated evacuation policy.

(5) ( ) Civil Engineering Support. List responsibilities for civil engineering support, limiting features, and other appropriate considerations.

(6) ( ) Miscellaneous. Include other logistic matters not considered elsewhere that may influence selection of a specific COA.

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3. ( ) LOGISTIC ANALYSIS OF OWN COURSES OF ACTION. Make an orderly examination of the logistic factors influencing the proposed COAs to determine the manner and degree of that influence. The objective of this analysis is to determine if the logistic requirements can be met and to isolate the logistic implications that should be weighed by the commander in the commander's estimate of the situation.

a. ( ) Analyze each COA from the logistic point of view. The detail in which the analysis is made is determined by considering the level of command, scope of contemplated operations, and urgency of need.

b. ( ) The logistic factors described in paragraph 2 are the elements to be analyzed for each COA under consideration. Examine these factors realistically from the standpoint of requirements versus actual or programmed capabilities, climate and weather, hydrography, time and space, enemy capabilities, and other significant factors that may have an impact on the logistic situation as it affects the COAs.

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c. ( ) Throughout the analysis, keep logistic considerations foremost in mind. The analysis is not intended to produce a decision, but to ensure that all applicable logistic factors have been properly considered and to serve as the basis for the comparisons in paragraph 4.

4. ( ) COMPARISON OF OWN COURSES OF ACTION

a. ( ) List the advantages and disadvantages of each proposed COA--from the J-4's point of view.

b. ( ) A work sheet probably will not be necessary as in the commander's estimate, but it may be used.

5. ( ) CONCLUSIONS

a. ( ) State whether or not the mission set forth in paragraph 1 can be supported from a logistic standpoint.

b. ( ) State which COA under consideration can best be supported from a logistic standpoint.

c. ( ) Identify the major logistic deficiencies that must be brought to the commander's attention. Include recommendations concerning the methods to eliminate or reduce the effects of those deficiencies.

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(Signed) _____
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ANNEXES: (By letter and title). Use annexes when the information is in graphs or is of such detail and volume that inclusion in the body makes the estimates too cumbersome. Annexes should be lettered sequentially as they occur throughout the estimate.

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APPENDIX 5

COMMAND, CONTROL, AND COMMUNICATIONS SYSTEMS ESTIMATE

SECURITY CLASSIFICATION

Originating Division, Issuing Headquarters*
Place of Issue
Date-time Group, Month, Year

COMMAND, CONTROL, AND COMMUNICATIONS SYSTEMS ESTIMATE NUMBER _____**

( ) REFERENCES: a. Maps and charts.

b. Other pertinent documents.

1. ( ) MISSION. State the mission of the command as a whole, taken from the commander's mission analysis, planning guidance, or other statements.

2. ( ) SITUATION AND CONSIDERATIONS

a. ( ) Characteristics of the Area of Operation.

Summarize data about the area, taken from the intelligence

* When this estimate is distributed outside the issuing headquarters, the first line of the heading is the official designation of the issuing command, and the ending of the estimate is modified to include authentication by the authoring section, division, or other official according to local policy.

** Normally, these are numbered sequentially during a calendar year.

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estimate or area study, with specific emphasis on significant factors affecting command, control, and communications activities.

b. ( ) Enemy Forces

(1) ( ) Strength and Dispositions. Refer to current intelligence estimate.

(2) ( ) Enemy Capabilities. Discuss enemy capabilities, taken from the current intelligence estimate, with specific emphasis on their impact on the command, control, and communications situation.

c. ( ) Friendly Forces

(1) ( ) Present Disposition of Major Elements. Include an estimate of their strengths.

(2) ( ) Own Courses of Action. State the proposed COAs under consideration, obtained from operations or plans division.

(3) ( ) Probable Tactical Developments. Review major deployments and command, control, and communications preparations necessary in all phases of the operation

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proposed. Command, control, and communications counter-measures against enemy capabilities should be included.

d. ( ) Personnel Situation. State known personnel problems, that may affect the command, control, and communications situation.

e. ( ) Logistic Situation. State known logistic problems that may affect the command, control, and communications situation.

f. ( ) Assumptions. State assumptions about the command, control, and communications aspects of the situation made for this estimate. Since basic assumptions for the operation already have been made and will appear in planning guidance and in the plan itself, they should not be repeated here. Certain command, control, and communications assumptions may have been made in preparing this estimate, and those should be stated here.

g. ( ) Special Features. Special features not covered elsewhere in the estimate but that may influence the command, control, and communications situation may be stated here.

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h. ( ) Command, Control, and Communications Situation. Consideration should be given to line-of-sight communications, satellite communications, UHF satellite communications, ground mobile command post, the Defense Satellite Communications System Ground Mobile Segment, and Defense Communications System Interface.

*(1) ( ) Command and Control Communications.

*(2) ( ) Administrative Communications.

*(3) ( ) Communications Intelligence.

*(4) ( ) Communications Security.

*(5) ( ) Communications Support for Combat Operations.

(a) ( ) Joint Tactical Air Operations.

(b) ( ) Air-to-Ground Operations (CAP and BAI).

(c) ( ) Naval Gunfire Operations.

*(6) ( ) Communications Control and Aids for Supporting Arms.

* Each subparagraph analyzes systems requirements, identifies capability and availability of equipment, and identifies facilities, installations, and units needed to satisfy requirements and furnish adequate support for the subject of that subparagraph.

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*(7) ( ) Communications Requirements for Other Activities.

3. ( ) COMMAND, CONTROL, AND COMMUNICATIONS ANALYSIS OF OWN COURSES OF ACTION. Make an orderly examination of the command, control, and communications factors influencing the proposed COAs to determine the manner and degree of that influence. The objective of this analysis is to isolate the command, control, and communications implications that should be weighed by the commander in the commander's estimate of the situation.

a. ( ) Analyze each COA from a command, control, and communications point of view. The detail in which the analysis is made is determined by considering the level of command, scope of contemplated operations, and urgency of need.

* Each subparagraph analyzes systems requirements, identifies capability and availability of equipment, and identifies facilities, installations, and units needed to satisfy requirements and furnish adequate support for the subject of that subparagraph.

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b. ( ) The command, control, and communications factors in paragraph 2 are the elements to be analyzed for each COA under consideration. Examine these factors realistically and include appropriate considerations of climate and weather, hydrography, time and space, enemy capabilities, and other significant factors that may have an impact on the command, control, and communications situation as it affects the COAs.

c. ( ) Throughout the analysis, keep command, control, and communications foremost in mind. The analysis is not intended to produce a decision, but to ensure that all applicable command, control, and communications factors have been properly considered and to serve as the basis for the comparisons in paragraph 4.

4. ( ) COMPARISON OF OWN COURSES OF ACTION

a. ( ) As in the commander's estimate, list the advantages and disadvantages of each proposed course of point of view.

b. ( ) A work sheet probably will not be necessary as in the commander's estimate, but it may be used.

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5. ( ) CONCLUSIONS

a. ( ) State whether or not the mission set forth in paragraph 1 can be supported from a command, control, and communications standpoint.

b. ( ) State which COA under consideration can best be supported from a command, control, and communications standpoint.

c. ( ) Identify the major command, control, and communications deficiencies that must be brought to the commander's attention. Include recommendations concerning the methods to eliminate or reduce the effects of those deficiencies.

(Signed) _____
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ANNEXES: (By letter and title). Use annexes when the information is in graphs or is of such detail and volume that inclusion in the body makes the estimates too cumbersome. They should be lettered sequentially as they occur throughout the estimate. Subject areas that should be discussed are communications security; command, control, and communications systems protection (including identification of initial nodes); and communications planning.

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APPENDIX 6

COMMANDER'S ESTIMATE OF THE SITUATION

SECURITY CLASSIFICATION

Issuing Headquarters*
Place
Day, Month, Year, Hour, Zone

COMMANDER'S ESTIMATE OF THE SITUATION

( ) REFERENCES: a. Maps and charts.

b. Other pertinent documents.

1. ( ) MISSION. State the assigned or deduced task and its purpose. If the mission is multiple, determine priorities. List any intermediate tasks, prescribed or deduced, necessary to the accomplishment of the mission.

2. ( ) THE SITUATION AND COURSES OF ACTION

a. ( ) Considerations Affecting the Possible Courses of Action. (1) Determine and analyze those factors which will influence the choice of a COA as well as those which affect the capabilities of the enemy. Consider such of the following and other factors as are involved, and include under each a statement of each fact (or an assumption, if

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necessary) and (2) a deduction of the probable influence on enemy or friendly actions.

(1) ( ) Characteristics of the Area of Operations Including:

(1) ( ) Military Geography

1. ( ) Topography. Factors of relief and drainage, vegetation, surface materials, and similar characteristics should be given consideration as they affect such elements of an operation as observation, maneuver, fire support, concealment, cover, air and surface movement, lines of communications, avenues of approach, key terrain, nuclear and C-B weapons employment, electronic emissions of all types, and unconventional, psychological, and other significant activities.

2. ( ) Hydrography. Included after this heading are the characteristics of offshore sea areas, approaches to the beaches, currents,

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tides, the beaches themselves, ports, docks, and similar maritime considerations.

3. ( ) Climate and Weather. Extremes of temperature, wind velocities, cloud cover, visibility, precipitation, and other such factors that can affect military operations must be determined and presented. Sunrise, sunset, and twilight data are normally given in this subparagraph.

(b) ( ) Transportation. Characteristics of roads, railways, inland waterways, and airfields, including such factors as size, capacity, conditions, and other facts that affect enemy capabilities and friendly COA, are given here.

(c) ( ) Telecommunications. Radio, cable, land-line, and other communications facilities in the area of operations that might aid in the exercise of command over military forces are listed. Facilities considered by this subparagraph are not those in the

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organic capability of the opposing forces, but rather those present in the area.

(d) ( ) Politics. Political factors include such considerations in political stability, alliances, relations with other countries, aspects of international law, control over subversion and dissidence, and similar factors that may influence selection of a COA. Neutrality or nonneutrality of neighboring states in the area is often listed here.

(e) ( ) Economics. Economic factors include the organization of the economy and sometimes its mobilization capacity; the industrial base of the antagonists to support hostilities, finance, foreign trade; and similar influences as they affect selection of a COA.

(f) ( ) Sociology. Social conditions run a wide range from the psychological ability of the populace to withstand the rigors of war to health and sanitation conditions in the area of operations.

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Language, social institutions and attitudes, and similar factors that may affect selection of a COA must be considered.

(g) ( ) Science and Technology. Although little immediate military impact may result from the state of science and technology in a target area, the long-range effects of such factors as technical skill level of the population and scientific and technical resources in manpower and facilities should be considered in cases where they may affect the choice of a COA.

(2) ( ) Relative Combat Power

(a) ( ) Enemy

1. ( ) Strength. Give number and size of enemy units committed and those available for reinforcement in the area. This is not intended to be a tabulation of numbers of aircraft, ships, missiles, or other military weaponry. Rather, it is a study of what

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strength the enemy commander can bring to bear in the area in terms of ground units committed and reinforcing, aircraft sortie rates, missile delivery rates, unconventional, psychological, and other strengths the commander thinks may affect the balance of power.

2. ( ) Composition. This includes order of battle of major enemy combat formations, equivalent strengths of enemy and friendly units, and major weapon systems and armaments in the enemy arsenal and their operational characteristics.

3. ( ) Location and Disposition. Geographical location of enemy units, fire support elements, command and control facilities, air, naval, and missile forces, and other combat power in or deployable to the area of operations are shown here.

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4. ( ) Reinforcements. Estimate the enemy reinforcement capabilities that can influence the battle in the area under consideration. This study should include ground, air, naval, and missile forces; nuclear, C-B and other advanced weapon systems; and an estimate of the relative capacity to move these forces about, to, and in the battle area.

5. ( ) Logistics. This subparagraph summarizes enemy ability to support the capabilities with which they have been credited and included such considerations as supply, maintenance, hospitalization and evacuation, transportation, labor, construction, and other essential logistic means. Broadly speaking, it is a feasibility test for enemy capabilities.

6. ( ) Time and Space Factors. Estimate where and when initial forces and reinforcements can be deployed and employed. Such a

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study will normally include distances and travel times by land, sea, and air from major bases or mounting areas into the battle area.

7. ( ) Combat Efficiency. This subparagraph is an estimate of enemy state of training, readiness, battle experience, physical condition, morale, leadership, motivation, tactical doctrine, discipline, and whatever significant strengths or weaknesses may appear from the preceding paragraphs.

(b) ( ) Friendly. The appraisal of the commander's own force should, in general, follow the same pattern just used for analysis of the enemy. The descriptions of what to consider and the approach to the problem outlined in paragraph 2.a.(2)(a) are applicable to this analysis of friendly forces.

(3) ( ) Assumptions. Assumptions are intrinsically important factors on which the conduct of the operation

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is based and must be noted as such in paragraph 2 of the commander's estimate.

b. ( ) Enemy Capabilities.* State the enemy capabilities which can affect the accomplishment of the commander's estimate.

c. ( ) Own Courses of Action. State all practicable COAs open to the commander which, if successful, will accomplish the mission.

3. ( ) ANALYSIS OF OPPOSING COURSES OF ACTION. Determine the probable effect of each enemy capability on the success of each of the commander's own COAs.

4. ( ) COMPARISON OF OWN COURSES OF ACTION. Weigh the advantages and disadvantages of each of the commander's COAs with respect to the governing factors. Decide which COA promises to be the most successful in accomplishing the mission.

5. ( ) DECISION. Translate the COA selected into a concise statement of what the force as a whole is to do, and so much of the elements of when, where, how, and why as may be appropriate.

* Obtained from the Intelligence Estimate of the Situation

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(Signed) _____
Commander

ANNEXES: **(As required: by letter and title)**

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Appendix B: Glossary of Operational Concepts

Base - An area or locality containing installations which provide logistical or other support. (JCS Pub 1-02)[58]

Center of Gravity - That characteristic, capability, or locality from which a military force derives its freedom of action, physical strength or will to fight. It exists at the strategic, operational and tactical levels of war. (Joint Test Pub 5-0 and 3-0)[59]

Culmination Point - The point at which a force on the offensive expends so much of its strength that it ceases to hold a significant advantage over the enemy. (FM 100-5)[60]

Decisive Points - Points in the theater, usually geographical, which exercise a marked influence over the result of a campaign. Their influence is either a factor of their control of lines of communication or their effect on the enemy. (Jomini)[61]

Phasing - A way of organizing the extended and dispersed activities of the campaign or major operations into more manageable parts which allow for flexibility in execution. (FM 100-7)[62]

ENDNOTES

1. Robert D. Behn and James W. Vaupel, Quick Analysis for Busy Decision-Makers (New York: Basic Books, Inc., 1982) 18, 25.

2. U.S. Army, FM 100-5, Operations (Washington, DC: Department of the Army, 1986) 10.

3. U.S. Army, FM 101-5, Staff Organization and Operations (Washington: Department of the Army, 1986) 5-1. Also U.S. Army, FM 100-5, Operations (Washington: Department of the Army, 1986) 10.

4. Martin Van Creveld, Command in War (Cambridge, MA: Harvard University Press, 1985) 261 - 267.

5. Behn and Vaupel, Quick Analysis, 18.

6. Joint Chiefs of Staff, "Joint Pub 5-03.1, Joint Operation Planning and Execution System, Volume 1, Planning Policies and Procedures," Final Draft, Unedited (Washington, D.C.: Joint Chiefs of Staff, 1991)

7. U.S Army, FM 100-5, 33.

8. U.S. Army, FM 100-5, 5-1.

9. U.S. Army Command and General Staff College, Student Text 100-9, Techniques and Procedures for Tactical Decisionmaking (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1991) 1-2.

10. U.S. Army CGSC, ST 100-9, 2-1.

11. U.S. Army CGSC, ST 100-9, 2-1 - 2-6.

12. U.S. Army, FM 101-5, Appendix E.

13. U.S. Army CGSC, FM 101-5, E-15.

14. U.S. Army CGSC, ST 100-9, 2-1.

15. U.S. Army CGSC, ST 100-9, 2-3.

16. U.S. Army CGSC, ST 100-9, 2-3 - 2-5.

17. U.S. Army CGSC, ST 100-9, 2-5.

18. U.S. Army, FM 101-5, 5-9.

19. U.S. Army CGSC, ST 100-9, 3-1.

20. U.S. Army CGSC, ST 100-9, 3-1.

21. U.S. Army CGSC, ST 100-9, 3-2 - 3-6.

22. U.S. Army CGSC, ST 100-9, 4-1.

23. U.S. Army CGSC, ST 100-9, 4-6.

24. U.S. Army CGSC, ST 100-9, 4-10 - 4-11.

25. U.S. Army CGSC, ST 100-9, 5-1.

26. Gary A. Klein, Marvin L. Thordsen, and Roberta Calderwood, Descriptive Models of Military Decision Making (Alexandria, VA: Army Research Institute, 1990) 3 - 4. Recognitional decision-making involves having an experienced decision-maker identify one reasonably good option which is improved on and then executed.

27. BCTP outbrief interview with LTG Shoffner, Commander, Combined Arms Center, 13 March 1992.

28. The Joint Chiefs of Staff, Joint Pub 1, Joint Warfare of the US Armed Forces (Washington, D.C.: National Defense University Press, 1991) 45.

29. JCS, Joint Pub 1, 47.

30. Joint Chiefs of Staff, "Joint Test Pub 5-0, Doctrine for Planning Joint Operations" (Washington, D.C.: Joint Chiefs of Staff, 1991) iii.

31. JCS, "Joint Test Pub 5-0," I-6 - I-7.

32. JCS, "Joint Test Pub 5-0," I-12 - I-13. Adequacy determines whether the scope and the concept of planned operations satisfy strategic guidance, taskings, and will accomplish the mission. Feasible plans accomplish assigned tasks with resources that are available within the time-frames contemplated by the plan. Acceptable plans are proportional and worth the expected cost.

33. JCS, "Joint Test Pub 5-0," I-16.

34. The Joint Chiefs of Staff, "Joint Pub 5-03.1, Joint Operation Planning and Execution System, Volume I, Planning Policies and Procedures" Final Draft, Unedited (Washington, D.C.: Joint Chiefs of Staff, 1991) II-13.

35. JCS, "Joint Pub 5-03.1," II-21.

36. JCS, "Joint Pub 5-03.1," III-13.

37. JCS, "Joint Pub 5-03.1," III-12.

38. Armed Forces Staff College, AFSC Pub 1, The Joint Staff Officer's Guide 1991 (Washington, D.C.: U.S. Government Printing Office, 1991) 6-16.

39. JCS, "Joint Test Pub 5-0," I-17.

40. AFSC, AFSC Pub 1, 6-17.

41. JCS, "Joint Pub 5-03.1," III-12.

42. AFSC, AFSC Pub 1, 6-23.

43. JCS, "Joint Pub 5-03.1," P-1-1 - P-1-5.

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46. JCS, "Joint Pub 5-03.1," Annex P, Appendix 3.

47. JCS, "Joint Pub 5-03.1," V-2.

48. JCS, "Joint Pub 5-03.1," V-13.

49. JCS, "Joint Pub 5-03.1," V-3.

50. JCS, "Joint Pub 5-03.1," V-12.

51. JCS, "Joint Pub 5-03.1," V-19 - V-20.

52. JCS, "Joint Pub 5-03.1," II-6.

53. Richard E. Neustadt and Ernest R. May, Thinking in Time (New York: The Free Press, 1986) 38 - 40.

54. For definition of central position refer to James M. Dubik, "A Guide to the Study of Operational Art," (AOSF paper, U.S. Army School of Advanced Military Studies, 1991) 16.

55. This matrix is a variation on a synchronization matrix first proposed in LTC Dubik, "A Guide to the Study of Operational Art," 30 - 33.

56. JCS, Joint Pub 1, 21 - 31.

57. U.S. Army CGSC, ST 100-9, 4-10 - 4-11.

58. Joint Chiefs of Staff, Joint Chiefs of Staff Publication 1-02, Department of Defense Dictionary of Military and Associated Terms (Washington, D.C.: U.S. Government Printing Office, 1989) 47.

59. JCS, "Joint Test Pub 5-0," GL-4.

60. U.S. Army, FM 100-5, 109.

61. Jomini, Antoine Henri, "The Art of War," in Roots of Strategy, Book 2, edited by BG J. D. Hittle, (Harrisburg, PA: Stackpole Books, 1987) 466 - 468.

62. U.S. Army Training and Doctrine Command, "Field Manual 100-7, The Army in Theater Operations," Draft (Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1990) 2-18 - 2-19.

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